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To Open Bids on 39,872,000 Pounds of Paper

This Quantity Being Asked for by the Joint Congressional Printing Committee Is Nearly 2,000,000 Pounds in Excess of the Quantity which is Being used by the Government Printing Office During the Current Six Months

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 22, 1936—Bids will be opened on May 18 by the Joint Congressional Committee on Printing for a six months supply of paper for the Government Printing Office, effective July 1 next and for an annual supply of envelopes from the same date. The committee will meet on May 25 to discuss the making of awards.

The committee is asking for bids for nearly 2,000,000 pounds more of paper for the coming six months than it asked for during the present six months. It estimates that 39,872,000 pounds of paper will be needed for the six months from July 1 while during the present contract period it is estimated that 37,756,000 pounds are being used.

Also the committee anticipates that 47,673,000 envelopes will be used for the coming fiscal year compared with 41,570,000 for the present contract year.

Report of Specifications Committee

Following is the report of the paper specifications committee suggesting some changes:

The Committee on Paper Specifications respectfully submits its Thirty-first Report and the accompanying recommended schedule for paper for the public printing and binding and blank paper for the use of the Government department and establishments in the District of Columbia for the term of six months, beginning July 1, 1936.

Considerable difficulty has been experienced during the past year due to deliveries of chemical wood book papers not complying with the specified requirements of 4.5 pH value. It was therefore deemed advisable to slightly lower the pH value requirement.

Recent developments in paper testing have made it possible to measure the printing qualities of paper and express them in numerical values. Two of the principal tests forming a basis for forecasting the printing quality of a paper are its oil penetration and its smoothness. Requirements for these properties were included in the specifications of several of the book paper items.

Research has shown that trouble in the pressroom such as misregister, curl, and wavy edges may be largely eliminated and best printing results obtained by maintaining the moisture content of the paper in equilibrium with that of the atmosphere of the pressroom. Since the lithograph-finish map and chart papers, lots 64 to 69 inclusive, are printed at atmospheric conditions of approximately 50 per cent relative humidity, a requirement for a moisture content in equilibrium with the atmospheric moisture at this humidity has been added to the specifications for these papers. A thickness requirement has also been added to the lithograph-finish papers.

Lots 62, and substance 16 of lot 70, and lots 72, 80, 81 and 105, have been eliminated from the schedule, because these papers are no longer needed.

Lot 201 has been added to the schedule in order to obtain a heavier coated cover paper.

The stock requirement for kraft paper has been more definitely defined.

In view of new developments in the process of making stereotype matrices, 40-pound red stereotype molding paper has been substituted for the 80-pound paper previously used and the specifications for lot No. 261 modified accordingly.

This schedule embraces 179 lots, being four less than the number called for in the preceding schedule. The quantity estimated for the term of six months beginning July 1, 1936, is approximately 39,872,000 pounds, as compared with 37,756,000 pounds for the previous contract period of six months.

Varieties of Paper on Which Bids are Asked

Paper bids will be asked for on the following:

750,000	pounds newsprint paper.
4,070,000	pounds machine-finish book paper.
100,000	pounds antique book paper.
120,000	pounds lightweight machine-finish book paper.
150,000	pounds 50% rag machine-finish book paper.
10,000	pounds 75% rag laid antique book paper.
25,000	pounds 100% rag machine-finish book paper.
960,000	pounds supercalendered book paper.
80,000	pounds half-tone book paper.
340,000	pounds coated book paper.
20,000	pounds lithograph paper.
3,850,000	pounds mimeograph paper.
300,000	pounds U S M O safety writing paper.
8,000	pounds U S M O writing paper.

(Continued on page 24)

Upper Lakes Pulp & Paper Co.'s Production

Manufacturing Operations Will Be Carried Forward Under Favorable Auspices—Operating Schedule for April Calls for Production At 90 Per Cent of Capacity—Heavier United States Newsprint Consumption Anticipated

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., April 20, 1936—Upper Lakes Pulp and Paper Company (formerly Great Lakes Paper Company), will carry forward operations under favorable auspices. The bondholders' committee has been advised by the National Trust Company that the operation schedule for April calls for production at 90 per cent of capacity. The company will have one year before having to pay interest on the new bonds. The presidential elections in the United States this year should result in a much heavier circulation of newspapers in that country and this will stand to benefit the Canadian industry as a whole.

Newsprint Price Advance Predicted

In the meantime evidences are multiplying that there will be a substantial advance in newsprint prices at the beginning of next year and it would appear as if the trend will be upwards for several years to come. It is pointed out that the Canadian newsprint industry is just emerging from five years' severe depression brought about by multiplication of the productive capacity of the industry and consequent over-production.

As a result of this latter condition the industry had to contend with four years of severe price-cutting, and the price of newsprint was carried down from $63 in 1927 to $40 in 1933. However, the unfavorable conditions of the past five or six years effectually put an end to further expansion and as a result the situation has been to a large extent corrected.

Consumption has been gradually increasing and has now practically overtaken production. While the industry at the end of last year was operating at about 80 per cent of rated capacity, production and consumption are much more nearly in balance than is indicated by this figure, as in practice actual productive capacity is believed to be considerably below rated capacity, and the spread between the two has been narrowed to such an extent that it is probable that within a short time they will be in equilibrium.

It is probable when this point is reached—and it is likely to be some time this year—no difficulty will be experienced in advancing the price of newsprint to a profitable level. While existing contracts preclude any advance in contract newsprint prices before the beginning of next year, in many quarters it is thought likely that there will be a sharp rise in spot prices around the middle of 1936.

Outlook for Producers Brighter

While most leading Canadian newsprint producers have made no money for several years past, and in fact, reported substantial deficits in the middle of the depression, the situation could be rapidly changed for the better by a $4 or $5 increase in newprint prices.

It is true that at the beginning of the present year the price of newsprint was advanced a dollar, from $40 to $41, but this upward revision did not fully represent the increase in production costs in the past twelve months. However, a further $4 to $5 increase will completely change the picture, it is believed.

What is more, as soon as production and consumption are in equilibrium, a sellers' market is likely to replace the buyers' one that has been in force since 1929, and over a period it should be possible to work up the price of newsprint to a really profitable level.

Provincial Buys a Tug

The tug *Strathbogie*, about 125 feet long, formerly engaged in harbor work at Port Arthur, and now located at Midland, has been purchased by Provincial Paper, Ltd. It is stated that the tug will be brought to Thunder Bay and will be used by the Port Arthur Division of Provincial Paper in its pulpwood operations in the Thunder Bay area following the opening of navigation.

Paper Men Meet at White Sulphur Springs

WHITE SULPHUR SPRINGS, West Va., April 20, 1936—A joint meeting of the Paper Bag Manufacturers Institute and representatives of the Kraft Paper Association was held at the Greenbrier April 15 to 19 inclusive. Members of the Paper Bag Institute who attended were: George Stohr. Milton L. McCauley, H. C. Nichols, Joseph M. Hartman, Albert Newman, N. S. Daniels, William Mazer, A. E. Salzman, E. R. Kendler, J. L. Kavanagh, G. F. Melia, Thomas J. Burke and Joseph M. Hartman of New York, R. L. Fitts of Boston, F. M. Dickinson of Tuscaloosa, Ala., J. M. Arndt of St. Louis. John E. Alexander of Port Edwards, Wis., and E. E. Brown of Middletown, Ohio.

Attending the Kraft Paper Meeting were: Messrs. E. R. Gay, Dernell and S. M. Hudson of New York, Harold W. Nichols and Edgar A. Hall of Cincinnati, J. A. Seibert, J. H. Cowhill, Allen C. Place, William A. Wrase, Raymond Bee and J. W. Meaker of Chicago, T. K. Davis and W. H. Anders of E. Pepprell, Mass., S. M. Phelan, Jr. of Stamford, Conn., Blair B. Stringfellow of Richmond, Norman S. Stone of Mosinee, Wis., and Robert C. Duncan of St. Louis. Mo.

Union Bag Plans Wood Supply

SAVANNAH, Ga., March 23, 1936—Plans for furnishing a steady supply of wood to the new paper bag plant at Savannah of the Union Bag and Paper Corporation were completed recently with the announcement by the company that Sam A. Allen of Pine Bluff, Ark., veteran timberman, has been authorized to purchase wood for the mill.

Mr. Allen has already arrived in the city and has set up offices on the twelfth floor of the Savannah Bank and Trust Company building.

Mr. Allen will operate a fleet of trucks out of Savannah, the size of which will depend on the number of farmers who prefer hauling their own wood to the woodyard at the mill.

The company has contracted with a towing company to operate a transportation system on the navigable waterways that traverse woodland areas within 125 miles of Savannah. The company will supply the barges.

Actual start of hauling wood into the yard at the mill will start about May 15, or some weeks in advance of the start of mill operations. This will mean that a stock of some 2,500 or 3,000 cords will be on hand prior to start of operations.

Demand for Paper Moderately Active in Boston

General Paper Merchants Report Paper Business Fair to Good—Manufacturers of Paper Comfortably Situated In Regard to Orders for Future Delivery—Tissues Continue In Good Request But Prices Are Unprofitable

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., April 20, 1936—Paper business in the Boston wholesale market area was fair to good last week. It is reported in the trade here that paper mills are very comfortably situated in regard to orders. In fact, it was officially stated that mills of the American Writing Paper Company at Holyoke, Mass., were operating pretty well. In tissue paper lines, there was plenty of business, which was, however, said to be unprofitable, a condition ascribed to over-production and keen competition, the latter said to be "frightful" just in Boston. The box board market continued quiet.

Paper stock remained quiet as a whole, with a general downward tendency in most lines. Old papers moved rather slowly, White blank news declined to 1.20 @ 1.25 from 1.30 @ 1.35. Bagging was easier. Australian wool pouches went down to 2.50 @ 2.75 from 2.75 @ 2.85.

In some quarters, new domestic rags were reported as moving fairly well at steady prices and in others as selling in small quantities with prices tending lower. Values, however, were unquotably changed.

In old domestic rags, there was little or no business, with quotations unaltered. In foreign rags, there is very little new business at the present time, with not much hope for it for a considerable period, according to reports. Exceedingly heavy purchases have been made in the last month or six weeks at considerably better prices than prevail here now. Prices, however, still persist abroad, but as soon as orders over across are filled, it is expected that a revision downward will take place.

Paper Merchants Meet

Thirty-eight were present at the monthly meeting of the New England Paper Merchants Association, held Wednesday evening at the Hotel Touraine. President Robert M. Stone presided.

It was voted to approve the following resolution, adopted March 30, at the luncheon meeting of the Wrapping Paper distributors:

"We, the subscribers to the Paper Distributors Cost Finding Bureau, sponsored and approved by the New England Paper Merchants Association, condemn as an unfair method of competition sales below cost of merchandise as loss leaders or for the purpose and with the intent of suppressing competition, and propose that the program of this group for the ensuing year be directed particularly at the curing of this trade evil."

The report of Secretary-Treasurer Frank B. Cummings, showed a membership of 55, compared with 61 last year, a loss of six, some of whom may reconsider resignation.

An invitation was received from the Worcester merchants to hold the annual outing there for the latter part of May or early in June, the date to be selected by the board of directors, which will probably be in June.

Offices will be closed Monday, April 20, as the holiday, April 19, falls on Sunday. June 17 is a legal holiday in Suffolk County, Mass. On October 12, Columbus Day, and November 11, Armistice Day, it is illegal to be open between 7 a.m. and 1 p.m. in Massachusetts.

National Vice-president F. Bendel Tracy, explained the National budget, the reasons why increased dues were necessary, and the formula followed in arriving at the individual dues. He stressed the need for supporting the National Association, both numerically and financially.

The speaker of the evening, C. Russell Walton, a lineal descendant of Sir Isaac Walton, spoke under the subject of "What of the Future?" on the constantly increasing taxes, extravagant governmental expenditures, and the Townsend plan.

News of the Industry

At the regular weekly meeting of the Advertising Club of Boston, which was held in the *Herald-Traveler* auditorium Tuesday evening, Ellsworth Geist, for eight years with the S. D. Warren Company, was on the program as a speaker. His subject was "Paper." Mr. Geist, previously connected with the Eddy Press, Pittsburgh, Pa., has had wide experience in paper, printing and typography.

Charles A Esty, president of Carter, Rice & Co., Corp., has returned from his trip to branch houses of the company on the Pacific Coast.

To Make Moulded Pulp Products

[FROM OUR REGULAR CORRESPONDENT]

DEXTER, N. Y., April 20, 1936—Articles of incorporation were filed this week by the newly-organized Robert E. Read, Inc., giving its capitalization as $103,000. Mr. Reed and his associates plan to manufacture molded pulp and wood fiber products in the mill of the former Warren Parchment Paper Company as soon as the necessary machinery is installed and the plant is in running order in June or early July. The main office will be located in Watertown and the number of directors will be from five to seven with the charter of the concern perpetual in duration. The certificate gives the company the right to manufacture, buy and market paper goods, products and by-products, pulp and articles made wholly or partly of paper, pulp or fiber; to operate a mill for manufacture of molded pulp products, acquire and hold patents, and do all other things necessary to their business. There are 4,000 shares of stock, of which 1,000 will be preferred and 3,000 common with no par value. The directors are Robert E. Read, of Chaumont; John A. Remington, Watertown; Allen Curtis, Lake Pleasant; J. Howard Leman, Boston; Lee Parsons Davis, White Plains.

Elk Paper Mfg. Co. To Continue Lines

J. Fred Crane, president of the Elk Paper Manufacturing Company, Childs, Md., writes:—

"There is a persistent rumor that our company plans to discontinue the manufacture of grades heretofore and at present being manufactured in this mill. We wish to announce that this rumor is entirely unfounded and we will continue to manufacture our present grades and plans are in the making for increasing our present production. We are especially making a drive in the mill to substantially improve our quality."

Newsprint Industry Displays Renewed Strength

St. Lawrence Associates Will Refuse to Write Newsprint Contracts In Future Below Prevailing Rates—Marked Improvements Experienced In Purchasing of Supplies, Equipments and Parts for the Paper Industry

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., April 20, 1936—What is spoken of here as the first definite reflection of the renewed strength in the position of the newsprint industry is the announcement by Arthur F. White, chairman of the board of St. Lawrence Corporation, that affiliates St. Lawrence Paper Mills, Brompton Pulp and Paper Company, and Lake St. John Power and Paper Company—will no longer write newsprint contracts at below prevailing prices, a practice based in the past on the "Fall clause" inserted in most contracts.

Another encouraging development is the marked improvement in the purchasing of supplies, equipment and parts by the pulp and paper industry. This is taken to reflect not only replacements and repairs to plants that have been "starved" for some years, and which have already greatly increased their output, but the prospect that demand will continue to grow with the necessity of further enlargement of output of the whole industry.

Meanwhile, with March output of newsprint up by 38,218 tons over that of March, 1935, production for the first quarter of 1936 has established an all-time record for the period and, at 693,424 tons, shows an increase of more than 100,000 tons over the output for the first quarter of 1935.

With consumption of newsprint making such remarkable strides, and with bright prospects for the industry, by this summer or fall, being in the best physical position for some years due to reorganizations and lifting of receiverships, visions of a "sellers' market" by next year are seen in quarters close to the industry. Such a development may appear almost impossible in view of the still parlous conditions prevailing in the newsprint field, but it is pointed out that marketing conditions in other commodities have, on occasion in the past, undergone changes quite as radical.

Price Bros. Reorganization

Prospects still favor early reorganization of Price Bros. & Co., despite the implications of and the fight for control of the company, arising from the purchase by Pacona, Ltd., of the bonds of the company deposited with the Protective Committee.

The Bondholders' Committee during the week has officially announced consummation of the sale of the bonds deposited with it to Pacona, Ltd. Terms of the sale, according to the announcement, provided for a cash payment equivalent to the face value of the bonds plus accrued interest from February, 1932, to the date of consummation of the agreement and an additional sum sufficient to cover expenses and compensation of the committee. Payment, by the terms of the agreement, is to be made in Canadian currency. As the Aluminium interests were already, according to reports, holding a substantial block of the Price Bros. bonds, acquired on the open market at the time of the previous efforts to reorganize the company, acquisition of the bonds deposited with the protective committee will give them total bond holdings well in excess of voting control.

This latest move undoubtedly puts the Duke Price Aluminium interests in the saddle in so far as the disposition of Price Bros. assets is concerned. With better than the necessary majority of the bonds held by Pacona, Ltd., and with Duke Price (now Saguenay Power) dominant among the unsecured creditors, the group has what appear to be unsurmountable powers of foreclosure and consequent ability to impose its own terms for the reorganization of the company.

From sources in close touch with the situation, however, it is learned that prospects for a rapprochement between the interests behind Pacona and those responsible for the company scheme of arrangement appear good. Foreclosure, it is pointed out, is a costly proposition, and is only to be resorted to as a last hope. When this fact is considered in conjunction with indications that the Duke Price-Aluminium interests are not particularly interested in acquiring control of Price Bros., but have as their principal objectives the cash liquidation of unsecured claims of Duke Price and the reestablishment of the newsprint company in a healthy financial and operating condition, grounds for an agreement between the various interested groups appear obvious.

It is emphasized that certain of the interests associated with the "company" plan will have at their disposal a substantial tonnage of newsprint contracts. Tonnage is an important consideration in the newsprint industry at any time, more especially under existing conditions, and this would undoubtedly be a factor in any negotiation between the two interested groups looking towards a joint plan.

Possibilities are seen for a compromise arrangement whereby the bonds will be retired at some figure in excess of face value plus back interest, but below the retirement price in sterling, in consideration for which Pacona, Ltd., would be given participation in the underwriting syndicate behind the "company" plan and, consequently, an equity in the new organization. Such an arrangement would give the Duke Price-Aluminium group a handsome profit on the bonds acquired on the market a year or so ago, a reasonable profit on the bonds acquired from the protective committee, and assurance of an early and healthy reorganization of Saguenay Power's chief customer.

Should such an arrangement be reached it is probable that, as a result of the necessity for retiring the bonds in cash plus back interest, some change will have to be made in the terms of the offers to preferred and common shareholders under the reorganization scheme.

Hinkson Paper Co. Chartered

[FROM OUR REGULAR CORRESPONDENT]

SPRINGFIELD, Mass., April 20, 1936—The Hinkson Paper Company has been incorporated with a capital stock of $24,000; 240 shares, $100 each and 250 common shares having no par value. Incorporators: J. R. Hinkson, Longmeadow, Mass., president and treasurer; Ralph B. Edson, West Springfield, Mass.. and Richard S. Woodbury, Springfield, Mass.

Chicago Paper Industry Practically Unchanged

Fine Paper Market Only Moderately Active—Various Grades of Bond Paper Rather Listless—Demand for Book Paper Generally Well Sustained —Cover Stock Moving Slowly—Newsprint Paper Situation Is Improving

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., April 20, 1936—Little change in the Chicago paper market was noted during the past week. Perhaps the most optimism came from offices of groundwood and newsprint executives. The former reported that some advances in March were continuing to hold exceptionally well and that demand was broadening out at the Spring months came on. Other lines were not quite so cheerful although fundamentals remained virtually the same. Bonds were more quiet during the week with some grades showing a slight tendency to be less in demand. Book papers held well as far as price conditions were concerned, the mills continuing to report plenty of work to fill orders received prior to April 1. Cover stocks were not moving at the same rate as last week. Krafts held a continued firm tone while the newsprint market was buoyed up by reports from all sides pointing to some future improvement of the international market picture. Paperboard reports were comparatively favorable as industry continued to consolidate its improvements. Waste papers were dull, reflecting a general oversupply of materials.

Container Outlook Good

Container Corporation of America reported consolidated net income of $179,303 for the first quarter of 1936 after deductions for interest, depreciation and federal income tax and provisions for adequate reserves. This compares with net income of $207,810 for the first quarter of 1935.

In accordance with a request of the New York Stock Exchange, dated March 23, 1936, Container Corporation of America will hereafter report at quarterly intervals its earnings for the preceding twelve months. During the twelve month period ended March 31, 1936, net earnings after all charges were $1,209,502, compared with earnings of $1,028,830 for the twelve month period ending March 31, 1935 or $1.85 and $1.57 per share, respectively, based on the present outstanding capital stock.

During the March quarter working capital increased $206,353. There were improvements to plant and equipment of $93,646; funded debt was decreased by $82,188.

First quarter earnings for 1936 were interfered with by the extremely cold weather, flood conditions in the East and labor difficulties at the Cincinnati plant. Operations at Cincinnati were resumed a week ago.

March earnings, though below those of a year ago, were better than earnings in January and February of this year. Various price advances took place in late March and early April of this year. Raw material prices, which advanced early in the year, have declined. Volume is reported as fair and outlook for the second quarter good.

Association Activities

The rapid fire series of meetings which characterized the spring season in the paper industry has tapered off so far as Chicago is concerned to the extent that the next meeting scheduled is for the middle of May when the members of the Book Paper Manufacturers Association meet at the Drake Hotel. The executive committee is to meet on the morning of May 13 while a general meeting of the entire association is to be held on May 14 and 15.

At the Monday, April 13, meeting of the Midwest Division. Salesmen's Association of the Paper Industry, George K. Gibson, chairman of membership for the national body, reported that the membership roster had reached its peak during the past few weeks. Mr. Gibson, executive of the Mosinee Paper Company, reported that 225 salesmen were now identified with the association. The Monday meeting was further featured by the regular round table discussion concerning business problems. Burt Fisher, newly appointed golf chairman, also gave the members a sample of the efficient way in which he plans to run the summer golf outings by listing the clubs and the dates for the outings. The initial tournament is to be held on May 22 at the Park Ridge Golf Club. The June event falls on the 26th at the Bob O Link Country Club and the July outing on the 24th at the interesting Knollwood course. Westmoreland Country Club provides the setting for August though the date has not yet been set. Neither the course nor the date has been arranged for the final outing which will again be carried through as a part of the National Paper Trade Association outings in the Fall.

News of the Industry

An excellent outlet for a certain grade of paper used in paper bags seems to have been developed rapidly in the past few years. One of the firms to merchandise paper bags as garment delivery bags and moth storage bags is the Lincoln Bag Company, Chicago concern with a factory able to give twenty-four-hour service. The company is pointing out to the printing industry the possibility of their product as an advertising as well as a practical product. A comprehensive sales kit has been prepared which gives not only names of styles, grades and stock designs, but also actual exhibits of the work that can be done by the cleaning and dyeing industries and others in assisting in the merchandising of their products. William Cole is president of the enterprising concern.

The Chicago Association of Commerce lists the Mosinee Paper Mills as a recently acquired member, indicating that while George Gibson is busily working for the S.A.P.I., he is also not overlooking the necessity of cooperating with the major trade association of the city.

The paper industry is going to loudly applaud the warning of the Heco Envelope Company that the cutting out of envelopes and using self-mailing folders is a costly process to merchandisers. Heco points out that a recent test case indicated that a folder brought 37 per cent more results when enclosed in an envelope—at a 6 per cent increased cost. Along with this item comes a special invitation order on a new Heco stock.

An important supplier to the paper industry, the Link-Belt Company, will show an improvement of approximately 50 per cent in its first quarter earnings compared with the same period in 1935 according to reports in local financial circles. It is expected that net profit will total around $300,000 equal after preferred to 36 cents a share on the common stock.

The entire line of the Rex Paper Company, including an impressive array of coated papers, has been added by the Empire Paper Company, Chicago.

Activities of Philadelphia Paper Industry

Kraft Paper Manufacturers Advised to Stimulate Interest of Buying Public By Inaugurating Similar Campaign to That of Rag Content Manufacturers —Planning and Hard Work Required to Assure Success of Movement

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., April 20, 1936—The campaign of the rag content manufacturers to stimulate the interest of the buying public to return to the selection of rag content paper, it is believed by those in the trade here should be initiated by the manufacturers of kraft papers, for the sooner purchasing agents are persuaded that the sale is not terminated at the time of purchase, and that the customers should be pleased with the care with which their purchases are wrapped, the sooner will the sales of high grade wrapping papers be increased and a better profit will result to those who make the sales. If it is true that women make 85 per cent of the purchases, then it is also true that every merchant could spend more thought about the appearance of their merchandise when it arrives at its destination. This is a job for the paper industry to put across and they all realize that it cannot be done without planning and hard work.

Hooper Paper & Twine Co. Expands

The Hooper Paper and Twine Company, Inc., 105 Church street, recently entered into a lease for a number of years for the adjoining four-story property at 103 Church street, thereby adding 12,000 square feet, making a total of 24,000 square feet in storage capacity. This

HOOPER PAPER & TWINE CO.

movement was made necessary to accommodate the additional lines of fine papers and paper specialties that have been gradually built up since acquiring their present building at 105 Church street in August, 1930. With limited facilities, this company started in business at 145 South Front street on April 23, 1921. They soon outgrew this location and leased the second floor of 207 South American street on August 1, 1927, where they remained until 1930. Plans have been made to provide more adequate space for the six salesmen and the present salesmen's headquarters will be used for display purposes.

Among the more prominent mills represented by the Hooper Paper and Twine Company, Inc., might be mentioned the American Writing Company, Badger Paper Mills, Hampshire Paper Company, Chemical Paper Company, Fort Howard Paper Company, Albemarle Paper Manufacturing Company, Denney Tag Company, Buffalo Envelope Company, American Paper Goods Company, etc. This company has only three sources of supply for its extensive lines of twines, namely: Ludlow Manufacturing Company, jute twines; Bibb Manufacturing Company, cotton twines, and Edwin H. Fitler Company, sisal twines. It has always been their policy to stock only standard merchandise and to sell those who have learned from experience that it is economical in the final analysis to pay a little more in the beginning.

The officers of this company are: George K. Hooper, president and treasurer; E. F. Hooper, vice-president, and Edwin V. Rementer, secretary. As is customary with this company each year, it will celebrate its fifteenth anniversary on April 23, at the Adelphia Hotel. All of the force will be participants and will enjoy a dinner and card party on that evening.

Paper Box Convention Program

Howard P. Beckett, Commissioner of the National Paper Box Manufacturers Association, states that all indications point to a large attendance at the Exposition and National Convention of the National Paper Box Manufacturers Association, scheduled for May 17, 18, 19 and 20, at the Hotel Traymore, Atlantic City, New Jersey. The exposition should be of interest to every progressive set-up paper box manufacturer.

A large number of successful paper box manufacturers and suppliers have been invited to speak on subjects of absorbing interest—production, selling, costs, etc. Walter C. Carlson, the first president of the National Paper Box Manufacturers Association, will be on the program. Henry P. Seidemann, Coordinator for the Social Security Board, will give last minute information on the Social Security Act. Pyke Johnson of Washington, D. C., leading figure in the National Association of Automobile Manufacturers, and president of the American Trade Association Executives, will speak on trade association possibilities.

Special entertainment features have been arranged. The exposition will open Sunday noon. Sunday evening the Philadelphia paper box manufacturers will sponsor a reception. Monday night the suppliers will act as host, and on Tuesday evening the annual banquet will be held with elaborate entertainment and dancing.

The cost clinics already held in different sections of the country by the National office, for the benefit of members of the association, have been very successful and it has been decided to hold two afternoon cost clinic sessions during the convention for the benefit of members who wish to attend or whose bookkeepers, estimators or accountants may desire to take the course.

Kalamazoo and Ohio TAPPI Sections Meet

The Kalamazoo Valley Section of the Technical Association of the Pulp and Paper Industry met on Thursday, April 16th at the Park American Hotel, Kalamazoo, Mich., and on April 18th the Ohio Section met at the Anthony Wayne Hotel, Hamilton, Ohio. Since the programs at both dinner meetings were substantially the same they will be reported in composite.

M. R. Wilkins of the Bryant Paper Company presided at the Kalamazoo meeting and Vincent F. Waters of the Wrenn Paper Company presided at Hamilton.

Secretary Macdonald Speaks

R. G. Macdonald, National Secretary-Treasurer of the Technical Association was the first speaker and at Kalamazoo he outlined the various activities of the Association including a summation of future plans. These will be published in more detail in a future issue of the PAPER TRADE JOURNAL. At the Ohio meeting the Secretary presented a three-reel moving picture showing the points of interest to be seen during the summer cruise of the Association August 3 to 7. In reference to the summer meeting Mr. Macdonald stated that it would be the only national meeting of the Association to be held during the balance of 1936. It is to be a joint meeting with the Technical Section of the Canadian Pulp and Paper Association. A steamship has been chartered that will take five hundred members and friends of TAPPI from Montreal on August 3, down the St. Lawrence River to Quebec, and Murray Bay, and from thence up the Saguenay River where mills of the Anglo-Canadian Pulp and Paper Company, Price Brothers Ltd. and the Port Alfred Pulp and Paper Company will be visited. About two hundred reservations have already been made for this trip.

The Secretary also stated that the new Bibliography of Paper Making covering the years 1928-1935 is now ready for distribution and is a complete record of everything of importance that has been written during this period on the subject of pulp and paper manufacture. More than two hundred copies of this wonderful compilation have been ordered by members.

W. R. Maull on Beating

William R. Maull, Vice-President of Dill & Collins Inc., Philadelphia, and Vice-President of the Technical Association, was the next speaker. At Kalamazoo he was introduced by W. J. Lawrence, President of the Paper Makers Chemical Corporation, and a member of the TAPPI Executive Committee. At Hamilton Mr. Maull was introduced by H. W. Laymon of the Mead Corporation.

Mr. Maull outlined the procedure that should produce a sheet of paper of certain desired characteristics from designated raw materials. Taking a simple case of preparing a sheet of printing paper from sulphite pulp he pointed out that the practice utilized in Europe and throughout the world for centuries has given us the information that we need in so far as quality is concerned. To accomplish similar results in American practice it would be necessary to utilize these same principles of beating lightly in small beaters for a considerable time to draw out the fibers before cutting them in any way. The current tempo of American practice is such that an ideal procedure is considered uneconomical and to some extent, impractical. We have been educated to using large capacity beaters with heavy rolls and high speeds. To compensate for some of the properties that are lost in this method we tend to use blends and to introduce fines into the stock for the sheet. For beater men desiring to obtain specific sheet properties from pulp much information can be obtained by carefully studying old and current European practice.

J. P. Hagenauer Speaks on Paper Costs

J. P. Hagenauer of the American Paper and Pulp Association, New York was introduced by Mr. Lawrence at Kalamazoo and at Hamilton by O. P. Gephart, superintendent of the Miamisburg Paper Company.

Mr. Hagenauer presented an analysis of paper machine operating costs. The talk was based on data collected by the Comparative Reporting Service of the A. P. P. A. and covered the reported operations of 64 fourdrinier machines whose major products consisted of book, writing and sulphite wrapping papers.

All values reported for direct labor total, repair labor and material inclusive of mill supplies, machine wires and clothing, steam power and expense total were expressed and presented in per cent of operating hour conversion cost.

The analysis of these various items brought out sufficient evidence to prove the statement that "On a given type of machine the per cent of the conversion cost dollar applicable to the six cost items discussed, is not materially affected by the type of product produced on the machine.

The charts illustrating the paper showed a comparison of the reported information for the individual machines with the weighted averages of the machines for each paper group, as well as that of all 64 machines without regard to the product. The diagrams throughout clearly showed the slight differences between the two averages and indicated the possibilities for the development of certain trends which should prove of interest and benefit to the industry at large.

Those in Attendance at Kalamazoo

Those who attended the Kalamazoo meeting were as follows:

W. J. Lawrence, A. Dreshfield, F. Chappell, H. F. Heller, H. Ware, W. Higbie, B. K. Asdell, R. T. Mashburn, C. L. Bachelder, C. E. Mueller and P. W. Bartholomew, Paper Makers Chemical Corporation.

J. Wood, F. Libby, A. Perlick, Hugh Smith, L. Hill, L. H. LaLiberte, W. J. White, R. A. Hayward, W. F. Hathaway and R. B. Stewart, Kalamazoo Vegetable Parchment Company.

H. M. Annis, E. Osborne and H. B. Johnston, Allied Paper Mills.

M. Wilkins, A. B. Milham, A. Webb, L. Willoughby, C. A. White, R. A. Olson R. Geis and J. L. Russell, Bryant Paper Company.

S. Balch, E. G. Milham, L. J. Scheid and H. S. Faram, Watervliet Paper Company.

D. Stocker, A. E. Hays, P. de Guehery, C. A. Braginton, G. C. Schmid, R. von Maur and R. L. Barton, Michigan Paper Company.

M. Redmond, D. Beveridge, Jacob Boodt and G. T. Ingling, Kalamazoo Paper Company.

C. C. Schneider, N. Cowie and H. E. Stafford, Hawthorne Paper Company.

H. C. Bradford and E. F. Whittington, Rex Paper Company.

M. D. Bardeen, W. Dalrymple, R. Atkins, A. Weinland and H. Dewey, Lee Paper Company .

A. Macvie, Parsons & Whittemore; F. G. Crane, A. L. Sherwood, D. D. Bachelder and J. A. Heenan, Sutherland Paper Company.

W. R. Maull, Dill & Collins, Inc., Philadelphia; R. G. Macdonald, TAPPI, New York City; J. P. Hagenauer, American Pulp and Paper Association, New York; J. J. Nylund, General Dyestuff Corp., Chicago; F. W. Bell and Prof. D. W. Mc Cready, University of Michigan; W. S. Taylor, American Cyanamid & Chemical Corporation; M. F. Flotow and R. D. Smith, French Paper Company; L. G. Janett, J. O. Ross Engineering Corporation; L. L. Griffiths, Heller & Merz; M. L. Gilman, Brown Company, Berlin, N. H.; C. B. Smith, Huron Milling Company; L. Lynd, R. T. Vanderbilt; H. Starr, A. Herbury Brothers, Inc.; C. H. Johnson, Peninsular Paper Company; H. J. Hotz, C. Ramean, W. J. Dial and K. Thorsen, Central Paper Company, Muskegon, Mich.; H. W. Bialkowsky, Gilbert Paper Company, Manaska, Wis.

Those in Attendance at Hamilton

Those who attended were: R. F. Reed, University of Cincinnati, Cincinnati, Ohio; D. D. Patrick, Cheney Pulp and Paper Company, Franklin, Ohio; R. G. Macdonald, TAPPI, New York; V. F. Waters, Wrenn Paper Company, Middletown, Ohio; W. R. Maull, Dill & Collins, Inc., Philadelphia; J. P. Hagenauer, American Paper and Pulp Association, New York; E. E. Grant, Crystal Tissue Company, Middletown, Ohio; H. W. Laymon, Mead Corporation, Chillicothe, Ohio; H. H. Harrison, Crystal Tissue Company, Middletown; Leo Fleischer, Crystal Tissue Company; C. H. Rybolt, Crystal Tissue Company; J. E. Burdsall, same company; E. L. Anderson, Champion Paper and Fibre Company, Hamilton, Ohio; J. C. Richardson, Gardner-Richardson Company, Lockland, Ohio; R. M. Maggart, Champion Paper and Fibre Company, Hamilton; H. L. Kutter, Black-Clawson Company, Hamilton; J. J. Aid, Mead Corporation, Chillicothe, Ohio; M. L. Downs, T. E. Michael, L. C. Lewis, same company; T. M. Chemerys, Champion Paper and Fibre Company, Hamilton; R. I. Drake, J. W. Zimmersmauph, Charles Soule, Don Bradner, Earle Barclay, G. C. Munroe, all of same company; Rudolph Kutter, Black-Clawson Company, Hamilton; J. R. Simpson, Champion Paper and Fibre Company, Hamilton, Ohio; S. Chase, Jr., G. S. Johnston, Jr. same company; E. H. Pippert, D. L. Stark, H. W. Martin, Shartle Brothers Machine Company, Hamilton; R. W. Martin, American Rolling Mill Company; H. Dalgren, Gardner-Richardson Company, Lockland, Ohio; Albert Kind, Champion Paper and Fibre Company, Thomas Duff, Wrenn Paper Company, W. Oliver, Gardner-Richardson Company, R. Holmes and C. W. Movinan, same company; H. H. Latimer and R. K. Stevenson of Beckett Paper Company, Hamilton; R. R. Weber, Mathiesen Alkali Works, Chicago, Ill.; H. Naffenschmidt, National Aniline and Chemical Company, Chicago; C. D. Roess, Wrenn Paper Company; J. H. Wallace, Black-Clawson Company, Hamilton; Sam Gard, Champion Paper and Fibre Company; C. A. Sorg, Sorg Paper Company, Middletown; R. B. Roe and R. H. G. Smith of same company; L. P. Wheeler, Beckett Paper Company, W. J. Reigers, same company; S. R. Olsen, Champion Paper and Fibre Company, M. L. Barker, Beckett Paper Co., Myron Wittmer, Cheney Pulp and Paper Company, H. G. Macklem, University of Cincinnati; Edward Lum, Beckett Paper Company, J. M. Jones, Shartle Brothers Machine Company; E. J. Nolan, Mead Corporation, Chillicothe; O. H. Hellstrom, Hartford City Paper Company; Howard Buechler, Black-Clawson Company; E. C. Hendrickson, Mead Corporation; P. H. Goldsmith Black-Clawson Company; T. E. Palmer, Mead Corporation, L. L. Hopkins, Champion Coated Paper Company; W. J. Upson, F. C. Broeman & Company, Cincinnati; J. F. Ohlson, Oxford Miami Paper Company, W. Carrollton, Ohio; J. P. MacKenzie, Canada Steamship Lines; A. E. Wiseman, Champion Paper and Fibre Company; R. A. McDowell, Reliance Electric and Engineering Company, Cleveland; E. J. Schroer, Container Corporation of America, Cincinnati; Richard Britton, same company, Wabash, Ind.; T. M. Burke, same company, Cincinnati; F. S. Crysler, same company, Wabash, Ind.; B. M. Smith, same company, Cincinnati; Karl Melenbacker, same company Wabash, and D. J. Brady, same.

New England Section of TAPPI Meets

The New England Section of TAPPI met Friday, April 17 at 8 P. M. at the Hotel Bancroft, Worcester, Mass. The usual dinner preceded the business meeting at which R. C. Griffin, chairman, presided.

Applying Pigments on the Paper Machine

The first speaker, A. E. H. Fair, manager of the Merritton Division of the Alliance Paper Mills, Ontario, Canada, discussed his method of applying pigments on the paper machine.

Mr. Fair stated that the work they have done on the application of pigments originated with the problem of filling a light weight paper. The beater method had been found to be unsatisfactory due to the fact that the paper was always two-sided. After trying various methods of applying different pigments on the machine, a method was devised of applying filler to the sheet on the wire. The filler is first made into a slurry and kept in constant agitation in the tanks, then atomized against an inclined plane which slopes toward the wire where the filler mixes with the fibers while in suspension. In one particular case the retention was improved from 45 per cent. to 86 per cent. with an average of 75 per cent. With newsprint the retention was raised from 60 per cent to 87 per cent without two sidedness. Excellent retentions of filler have also been experienced on onionskin, coating raw stock, waxings, book, catalogue and sulphite specialties.

By this method of filling on the Fourdrinier wire, formation is also improved. It was also stated that flexibility is one of the biggest points in favor of this method of adding filler. If the ash is varying, by adjusting the slurry consistency on the apparatus, it is possible to vary the percentage of filler in the sheet. This is advantageous in certain grades and on short runs.

One of the troubles encountered with this system was the dispersion of the filler in water. With an equal dispersion it is possible to get good opacity depending on the amount of filler used; if the dispersion is not good a correspondingly high opacity will not be obtained. In some cases this problem has been solved.

Mr. Fair displayed a chart showing the comparison of

HAVE YOU TAKEN THIS STEP

toward increased earnings?

STOCK taken out of the water leaving the paper machine is worth so much a pound to you and it's easy enough to figure how much. . . . The net return on fibre recovery equipment is simply the dollars worth of stock it gets out of the waste water minus the total cost of getting it out. . . . Compare the Bird Save-All with any other fibre recovery system on this practical basis. We'll gladly let the figures speak for themselves.

BIRD MACHINE COMPANY · SOUTH WALPOLE, MASSACHUSETTS

BIRD SAVE-ALL

YOU CAN MAKE MORE MONEY WITH NEW BIRD MACHINERY

ash to retention. With his method of filler application a higher ash content is reached in a shorter length of time, and also mentioned that the success of his system or of any other system depends on the human element. It will or will not work depending on mill conditions and is not suited to conditions in every mill.

From the Sales Point of View

C. H. Champion, manager of the Paper Mill Division of the R. T. Vanderbilt Company, New York City spoke from the technical sales point of view of the place in the paper field which pigments have reached in the last five or six years. He told of the difficulties encountered in selling high refractive pigments, particularly titanium dioxide. Because of its price it was considered prohibitive for use in the lower grades of paper. Today there are many pigments on the market which vary in price. All have merit and the mill will get from each one just what they pay for it.

Mr. Champion stated that in his opinion the salesmen of these high refractive pigments have been very successful in convincing the paper manufacturers of the merits of these pigments. However, the ultimate users, such as printers and large paper buyers, must recognize the advantage and value of a more opaque sheet.

A movie reel was shown of the Saguenay River trip—a feature of the Joint Fall Meeting of the Canadian and United States Technical Associations of the Pulp and Paper Industry.

The May meeting will be on Color and is to be held at the Hotel Nonotuck in Holyoke. The guest speaker will be Mr. F. A. Soderberg, Color Engineer, General Dyestuff Corporation, New York City.

Those in Attendance

Those who attended were:

Charles Davidson, Jr. and C. L. Reece, Jr., Whiting Paper Company, Holyoke, Mass.; R. H. Kimball, George O. Jenkins Company, Bridgewater, Mass.; H. S. Leonard, Merrimac Chemical Company, Boston, Mass.; H. K. Burrill and Ralph J. Dalton, George O. Jenkins Company, Bridgewater, Mass.; E. C. Kallander and G. R. Alden, Dennison Manufacturing Company, Framingham, Mass.; H. Horkings, Alliance Paper Company, Merritton, Ontario; V. A. Belcher, New Jersey Zinc Company, New York City; Charles Backus, James Fitzgerald and Grant Willey, Collins Manufacturing Company, N. Wilbraham, Mass.; A. L. Perry, Krebs Pigment and Color Company, Boston, Mass.; F. C. Clark, Skinner & Sherman, Inc., Boston, Mass.; S. D. Hellberg, American Writing Paper Company, Inc., Holyoke, Mass.; R. E. Holme, Merrimac Chemical Company, Boston, Mass.; William R. Willets, Titanium Pigment Company, New York City; F. A. Abbiati, Merrimac Chemical Company, Boston, Mass.; R. J. Proctor, Fitchburg Paper Company, Fitchburg, Mass.; John B. Calkin, Dennison Manufacturing Company, Framingham, Mass.; W. P. Richardson, Arthur D. Little, Inc., Cambridge, Mass.; R. B. Martin, Wallace & Tiernan Company, Newark, N. J.; O. F. Lane and Robert W. Ball, Krebs Pigment and Color Corp., Newark, N. J.; F. H. Lovenberg, Mathieson Alkali Works, Providence, R. I.; Russell W. Hamilton, Harry J. Kruse and Herbert Thompson, Nashua River Paper Company, E. Pepperell, Mass.; J. J. Burke, Bird & Son, E. Walpole, Mass.; P. S. Bolton, Clinton Sales Company, Boston, Mass.; A. E. Regnier, Papermakers Chemical Company, Holyoke, Mass.; Harold L. Lavallee, Clinton Company, Springfield, Mass.; W. Gordon Booth, Robert Gair Company, New London, Conn.; A. W. Nickerson, ——, New York City; L. A. Thompson, Papermakers Chemical Company, Holyoke, Mass.; Henry L. Mellen, Deerfield Glassine Company, Monroe Bridge, Mass.; John Dickson and C. H. Champion, R. T. Vanderbilt Company, New York City; Francis A. Fussey, Bird & Sons, E. Walpole, Mass.; Roger C. Griffin, Arthur D. Little, Inc., Cambridge, Mass.; A. E. H. Fair, Alliance Paper Mills, Merritton, Ontario; W. L. Foote, B. F. Perkins Company, Holyoke, Mass.; R. E. Kilty, A. E. Staley Manufacturing Company, Springfield, Mass.; Dwight K. Bartlett, West Dudley Paper Company, W. Dudley, Mass.; G. A. Peterson, Rice, Barton & Fales, Worcester, Mass.; H. T. Barker and E. C. Davis, Bird & Son, Inc., E. Walpole, Mass.; James F. Leahy, Fitchburg Paper Company, Fitchburg, Mass.; W. J. Burke, General Dyestuff Corporation, Providence, R. I.; D. D. Uong, Fitchburg Paper Company, Fitchburg, Mass.; John F. Inderdohnen, The Bristol Company, Springfield, Mass.; J. T. Leecock, American Writing Paper Company, Holyoke, Mass.; R. H. Doughty and Chester G. Landes, Fitchburg Paper Company, Fitchburg, Mass.; Frank R. Filz, Wheelwright Paper Company, Leominster, Mass.; Gustav E. Mangsen, Fitchburg Paper Company, Fitchburg, Mass.; J. J. Hankaud, Wheelwright Paper Company, Leominster, Mass.; W. L. Vassar, ——, Worcester, Mass.; R. W. Pattison and Lena E. Kelley, American Writing Paper Company, Holyoke, Mass.; Roy S. Charron, U. S. Envelope Company, Worcester, Mass.; S. W. Blanchard, ——, Worcester, Mass.; Frank Leonard, Walter Jenkins and A. F. Chilson, Marble-Nye Company, Providence, R. I.; Norman Kennedy, Penick & Ford Company, New York City; Rosalie M. Cobb, Lowe Paper Company, Ridgefield, N. J.; Arthur M. Brooks, Raffold Process Company, Andover, Mass.

Morgan Division to Close

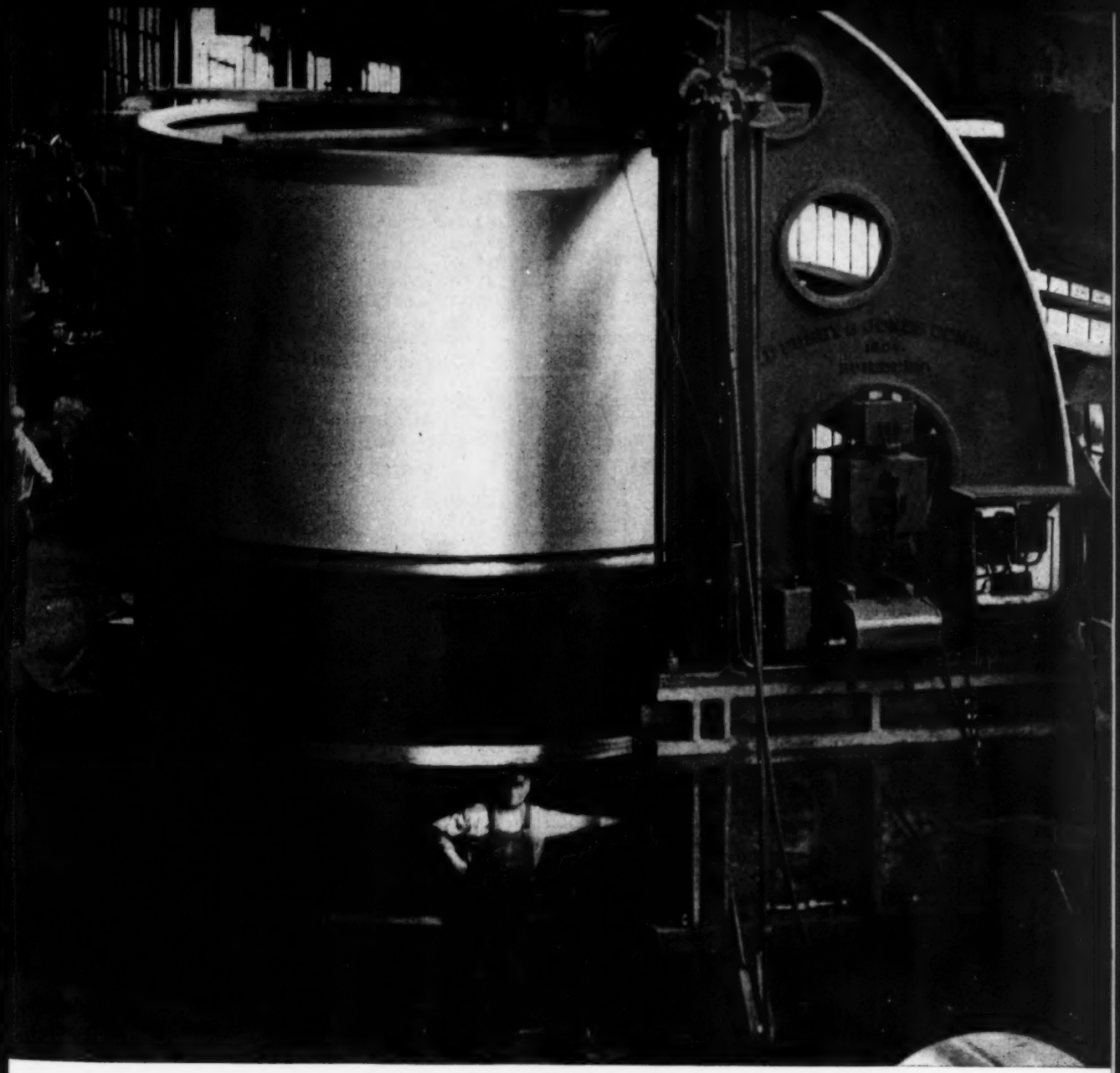
[FROM OUR REGULAR CORRESPONDENT]

SPRINGFIELD, Mass., April 21, 1936—William O. Day, treasurer of the United States Envelope Company announces that the Morgan Division, located at Springfield, will be closed on or before June 1. The reason assigned is that the changed conditions are giving more work to the other divisions. The Morgan division at one time employed over 600 but now is employing but 115.

The Morgan Envelope Company was established at Springfield by the late Elisha Morgan in 1864. It was one of the ten concerns merged into the United States Envelope Company in 1898 in the period of the great mergers in the paper world. One of the merged companies was the Holyoke Envelope Company, of which James T. Abbe was president and George N. Tyner treasurer. The Holyoke division was discontinued in 1922, and most of the local business turned over to the Morgan division.

Bayless Corp. Moves New York Sales Offices

The Bayless Pulp and Paper Corporation will move its New York sales office from its present location at 2 Lafayette street to larger quarters on April 27 to 295 Madison avenue. It is believed that the company will be able to serve its customers to better advantage from the new location. The company will, as usual, be glad to handle any inquiries within the scope of the coarse sulphite field inasmuch as it has a wide and extensive line of sulphite papers.



Yankee Dryer, cast and machined. Dimensions 144 x 198 inches. Weight 40 tons. Made of special Puseyjones alloy.

"ask us"

THE PUSEY AND JONES CORPORATION

Established 1848. Builders of Paper-making Machinery

[NEWS-PRINT : BOOK PAPER : KRAFT : BOARD]

Wilmington, Delaware, U.S.A.

THE SIGN OF TRADE MARK SUPERIOR QUALITY

Obituary

R. W. McEwan

WHIPPANY, N. J., April 20, 1936—Richard Walsh McEwan, vice-president of the McEwan Bros. Paper Mills here and descendant of a family long connected with the paper trade, died suddenly of a heart attack at 3:30 on April 15 at his home on Morris Avenue, in his seventy-first year. He was stricken with a staphylococcus germ on Monday evening.

Mr. McEwan was born in Bloomfield, January 25, 1866, a son of the late Robert and Sarah Walsh McEwan. His father was born near the city of Glasgow, Scotland, where his father was also a paper-maker by trade. Robert first followed his trade in America at Easton, Conn., moving from there to Caldwell, then to Bloomfield and Whippany.

Richard W. McEwan was educated in the public schools and at an early age entered his father's factory as an employee, spending considerable time in each department, thus familiarizing himself with all branches of the work.

Before reaching the age of eighteen, he had acquired an interest in his father's business and since then had been an active factor in the success of the enterprise. The factory is considered one of the best equipped in the country.

Mr. McEwan's brother, Arthur McEwan, who is now in Florida, is president of the firm, and the former's son, Richard W. McEwan, Jr. is assistant treasurer.

The deceased was a member of Cincinnati Lodge F. and A. M., Madison Chapter No. 12 R. and A. M., Ode de St. Amand Commandery Knights Templar and the Mecca Shrine of New York.

Surviving are his widow, Mrs. Hannah Brown McEwan, his son, Richard W. McEwan, Jr., two daughters, Mrs. Virginia McEwan Gaerste of Whippany, and Mrs. Holly McEwan Rust, Marblehead, Mass.; a sister, Mrs. Mary McEwan Wilson of Morristown; and four brothers, Robert B. McEwan of Montclair, Arthur McEwan of Whippany, Frank McEwan of Madison and Frederick McEwan of Convent. The Rev. Joseph E. Walsh, pastor of the Morris Plains Presbyterian Church, is a cousin.

John Jesse

The Whitaker Paper Company, of Cincinnati, Ohio, regrets very much to announce the death of its Louisville representative, John Jesse, on April 15 at his home in Louisville. Mr. Jesse was in his sixtieth year and had represented the company in Louisville for the last thirty years. He was well liked and highly respected. The company feels a great loss in the passing of Mr. Jesse.

John B. Sheperd

The Peninsular Paper Company, of Ypsilanti, Mich., announces the death of John B. Shepherd, sales manager and director of the company, on Saturday, April 4.

Hinsdale to Rebuild Paper Mill

HINSDALE, N. H., April 20, 1936—The Hinsdale Paper Manufacturing Company is to rebuild its paper mill, damaged by the flood. The building is to be of brick, steel and concrete construction, three stories, 80 x 200 feet. L. N. Stearns is treasurer of the company. The contract has been awarded to J. W. Bishop Company, Worcester. The engineers are McClintock & Craig, Springfield.

TO OPEN BIDS ON PAPER

(Continued from page 13)

5,000	pounds safety writing paper.
7,462,500	pounds writing paper.
270,000	pounds map paper.
1,014,000	pounds manifold paper.
7,731,000	pounds bond paper.
936,000	pounds ledger paper.
988,000	pounds index paper.
2,500	pounds tissue paper.
265,000	pounds cover paper.
510,000	pounds manila paper.
856,000	pounds kraft paper.
1,000	pounds paraffin paper.
400,000	sheets gummed paper.
184,000	pounds blotting paper.
2,500	pounds stereotype molding paper.
20,000	pounds oiled manila tympan paper.
4,000	pounds plate-wiping paper.
2,000	pounds back-lining paper, for case making.
7,000	pounds high-finish red sulphite.
250,000	pounds manila tag board.
900,000	pounds calendered tag board.
30,000	pounds manila cardboard.
80,000	sheets railroad board.
400,000	pounds bristol board.
5,500,000	pounds United States postal card bristol board.
30,000	sheets pressboard.
4,000	pounds news board.
1,210,000	pounds chip and strawboard.
15,000	pounds marble grained board.
36,000	pounds box board.
390,000	pounds binder's board.

In cases where more than 1,000 reams are called for, proposals will be received for 1,000 reams or more.

Bids will also be asked for for the following envelopes:

33,832,000	Kraft.
11,220,000	Writing, Sulphite, White and Colored.
250,000	Fine Writing, White and Colored.
395,000	Ledger, White.
1,610,000	Bond, 50% Rag, White.
366,000	Bond, 100% Rag, White.

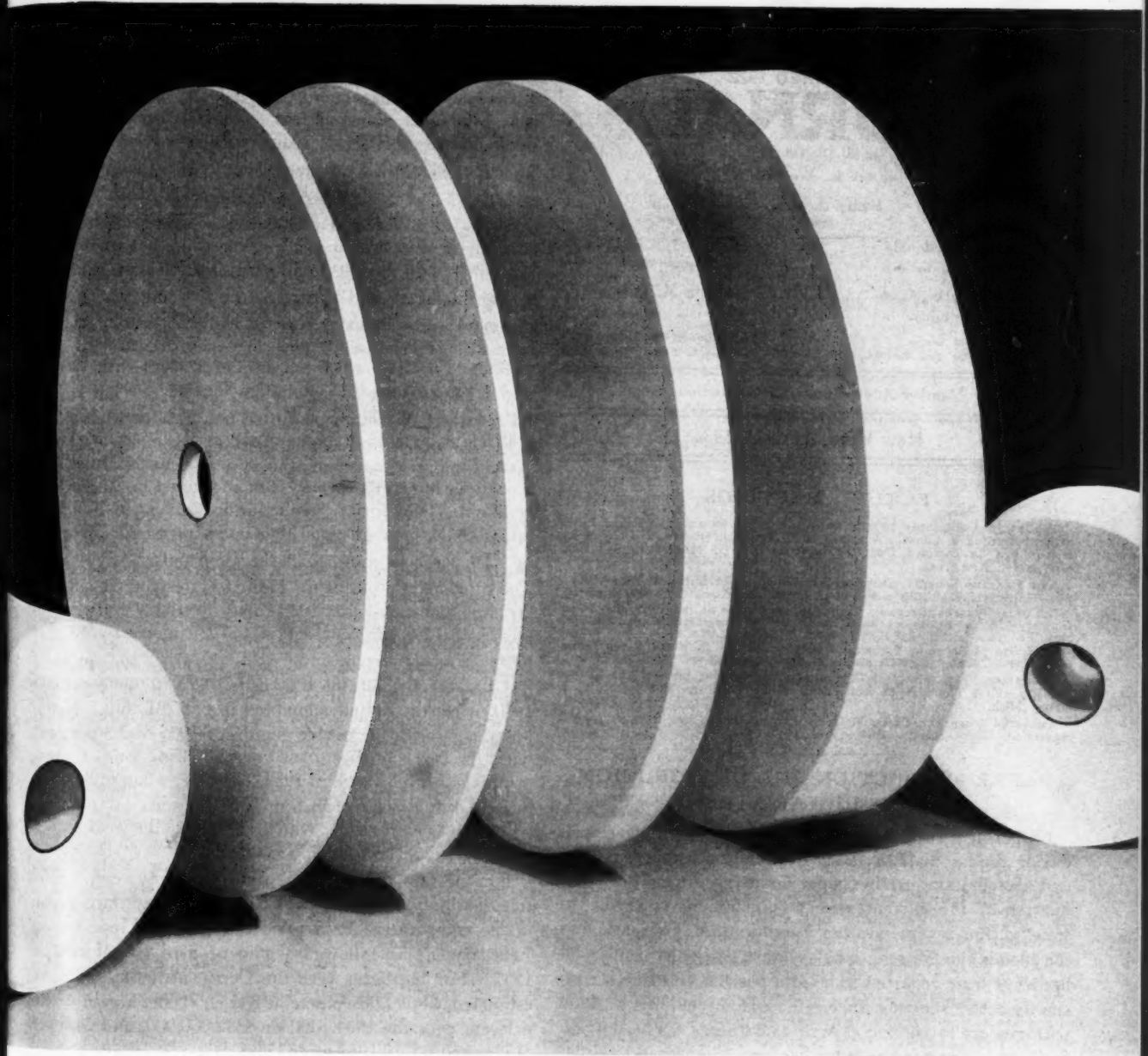
New Name and Sales Plan for Askania

The business in automatic regulation previously carried on by H. A. Brassert & Co. in the iron and steel industry and by the American Askania Corporation in other industries, has been united and placed in the hands of a newly organized company which is now known as the ASKANIA REGULATOR COMPANY. This change became effective the first week in March.

With the organization of the new Askania Regulator Company, all sales and manufacturing to all industries will be concentrated within the new organization. This change allows for sales simplification and better service to industry as a whole. The offices and the manufacturing plant of the new company remains the same as that of the old American Askania Corporation: 1603 South Michigan avenue, Chicago, Illinois.

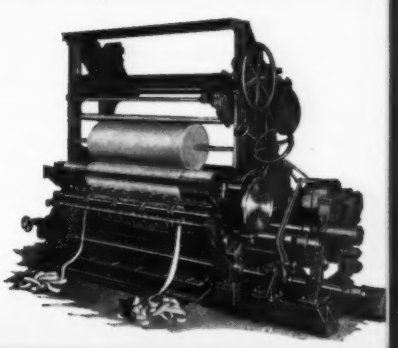
The new Askania Regulator Company will continue to develop and manufacture automatic controls for iron and steel mills, power plants, chemical industries, paper mills, engine and turbine manufacturers, glass works and kindred process industries. Askania control regulates pressure, rate of flow, humidity, speed of rotation, draft, water level, air for combustion and any other condition that is measurable.

LANGSTON SLITTERS



AND ROLL WINDERS

THESE thirty-inch diameter rolls of Hammermill Bond were produced on a Langston Type "AA" Slitter. Note the uniform density from core to outside and the clean, square-edged cut on the ¾" as well as the larger rolls. A Shear-Cut is a Clean Cut.



SAMUEL M. LANGSTON COMPANY
CAMDEN, NEW JERSEY

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Editor Technical Section

Herbert J. Laughton
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FUTURE MEETINGS

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY, Summer International Meeting in Canada, August 3 to 7, Montreal, Quebec, The Saguenay. Details may be obtained from the secretary, R. G. Macdonald, 122 East 42nd street, New York.

NEW ENGLAND SECTION, Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Nonotuck Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION, Technical Association of the Pulp and Paper Industry—fourth Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION, Technical Association of the Pulp and Paper Industry—second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION, Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park-American Hotel, Kalamazoo, Mich.

AMERICAN PULP AND PAPER MILL SUPERINTENDENTS' ASSOCIATION, Annual convention, Grand Rapids, Mich., June 24-26, 1936.

PAPER PRODUCTION AND DISTRIBUTION SHOW UPWARD TREND

Gathering greater force from the strength developed during the last half of 1935, the trend of both production and distribution in the paper industry during the first quarter of the current year was definitely upward. In spite of the severe weather conditions in February and the floods in March, which damaged many mills, all branches were reported to be in a position to make a constantly better showing during the ensuing months of 1936 with respect to volume as well as earnings. The outlook for improvement in the latter has been brightened by prospects of price increases.

Even though the present schedules of mills at 10 to 20 per cent above last year's may not be maintained during the next three quarters, production doubtless will run ahead of that of 1935, which trade estimates placed at 10,375,000 tons of paper and paper board. This represented a gain of 13.5 per cent over the 1934 output of 9,140,000 tons, as compiled by the Bureau of Census. The all-time low for the industry was touched in 1932, when tonnage fell to 8,000,000, with a value of around $500,000,000, from 11,000,000 tons in 1929, valued at more than $1,000,000,000.

Profits, however, have not been in alignment with the rising sales volume, because of the increased selling and distributing costs and the mounting tax burdens made up of national, State, county, and city impositions. The general confidence in the expansion of demand, nevertheless, is evident in the plans for rehabilitation and new plant construction in the paper and pulp industry during the current year, the expenditures budgeted running almost double those of 1935, according to a survey of the paper industry, which has just been completed by Dun & Bradstreet, Inc.

Since July, 1935, paper mills have operated each month at a higher level than in the corresponding one of the year preceding, with the outstanding increase in those producing newsprint, kraft, and paper for the building trade. Employment in the industry was up nearly 5 per cent in 1935 over that of 1934, while pay rolls from the first of 1934 to the end of 1935 advanced around 27 per cent. Schedules at most plants during the first quarter were the highest recorded for the comparative period back to 1930.

While shipments in January averaged 15 per cent more than in the year preceding, the gain was cut to 10 per cent by bad weather in February, but recovered to 20 per cent in March. Newsprint production in Canada in February established a new all-time high by rising to 221,569 tons, or 22.9 per cent more than the 1935 output of 180,305. The combined output of the United States and Canada for the first two months of 1935 totalled 601,137 tons, an increase of 12.6 per cent over the 1935 figure of 533,735 tons.

This was the largest total for any two months since 1930, when the output amounted to 632,781 tons. It followed a gain for the twelve months of 1935 of 3.3 per cent, when the two countries turned out 3,668,542 tons of newsprint, against 3,552,598 in 1934. For Canadian mills alone in 1935 output set a record at 2,753,289 tons, as compared with 2,599,244 in 1934, which surpassed the peak which had held since 1929 at 2,725,000 tons.

For the first three months of the current year, wholesale distribution of paper was 10 to 15 per cent larger than in the comparative 1935 period, despite the recession in February. This followed a gain of 8 to 10 per cent in 1935. For the latter year the Department of Commerce estimated wholesale volume at $415,000,000, a gain of 8.6 per cent over the 1934 total of $382,000,000, and 24.6 per cent over that of 1933 at $333,000,000.

The widening use of coarse papers, wrapping, bags, and grades for industrial needs have been strong factors in the uptrend. The finer bond papers and advertising paper also came in for more attention, and in many instances the better qualities were specified. Roofing and building papers were benefited by the spread of construction work. Buying of fancy items for the Easter trade ran 10 to 20 per cent ahead of the comparative 1935 volume.

The wider sales of paper are confirmed by the constant rise in per capita consumption since the all-time low was reached in 1932. From 1 pound in 1810, consumption of paper for each person in the United States advanced to a peak of 220 pounds in 1929. The abrupt decline in the years that followed carried it down to 154 in 1932. The

gradual broadening that started during the last half of 1933 was extended sufficiently to increase the figure to 198 pounds in 1935.

Most of the weak spots were removed from the wholesale price structure during 1935, with evidence of stability becoming more distinct in all grades of paper. As the current year opened the tendency was upward, and most of the minor reductions made during 1935 were restored. Firmness was particularly marked in the industrial papers.

On April 1 some manufacturers raised book paper prices $3 to $5 a ton and coated paper prices $5 to $11 a ton, representing an advance of 3 to 5 per cent. This announcement followed an increase of $2 a ton on bleached soda pulp, which is used widely in the manufacture of book paper. Mark-ups on other grades were scheduled on fall orders.

The price of newsprint has been steady at $41 a ton, to which it was advanced on December 15, 1935, from $40 that had held since April, 1933, when it was lowered from $45. For three-year contracts, newsprint men have set quotations tentatively at $42.50 for 1937, at $43.50 for 1938, and at $45 a ton for 1939. In 1923 the price was $75 a ton.

The two-year downtrend of failures in the paper industry was checked in 1935, when the number for manufacturers, wholesalers, and retailers totalled 30, or the highest since 1932. For the latter year the peak was established at 43, which was reduced to 26 in 1933, and 24 in 1934. The increase of 6 in 1935 was contributed by the wholesalers' and retailers' group, in which the number rose to 24 from 16 in 1934. For manufacturers there was a decline of 2.

The liabilities involved in the 1935 failures, on the other hand, dropped to a new all-time low. The total of $898,418 was a decline of 26.6 per cent from the 1934 amount of 1,224,807, and lower by 63.6 per cent than in 1933. From the peak in the industry's history, which was reached in 1932 at $3,647,797, the 1935 total was less by $2,749,379, or 75.4 per cent.

Government Paper Awards

WASHINGTON, D. C., April 22, 1936—George W. Millar & Co., will furnish the Government Printing Office with 7,400 pounds (50,000 sheets) of 24 x 38, 148 lbs., sulphite manila paper at 5.14 cents per pound.

Also the Cauthorne Paper Company will furnish 400 pounds of red stereotype molding paper in 24-inch rolls at 12.5 cents per pound. Bids for these items were received on April 6.

The Old Dominion Paper Company will furnish 9,900 pounds (75,000 sheets) of 26 x 34, 50 per cent rag white bond paper at 12.35 cents per pound, bids for which were received on April 3. Also the Stanford Paper Company will furnish 7,238 pounds of 26 x 40 white coated cover paper at 7.64 cents per pound, bids for which were received on March 20.

The R. P. Andrews Paper Company will furnish 520 pounds (2,000 sheets) of 26 x 40 buff antique cover paper, deckle edge at 18.25 cents per pound, bids for which were received on April 8.

Production Ratio Report

(These statistics are based upon paper production reports to the American Paper and Pulp Association.)

COMPARATIVE MONTHLY SUMMARIES

Month	1936	1935	1934
January	76.1%	65.8%	...
February	78.0	70.0	...
March	76.2	70.5	...
April	...	70.0	...
May	...	69.4	...
June	...	72.3	...
July (b)	...	67.8	...
August	...	70.9	...
September (c)	...	75.0	59.4%
October	...	75.6	64.7
November	...	75.3	61.7
December (a)	...	74.3	62.1
Year	...	71.2	...

COMPARATIVE WEEKLY SUMMARIES

Current Weeks, 1936		Corresponding Weeks, 1935	
* March 7	79.6%	March 9	69.6%
* March 14	78.7	March 16	69.8
* March 21	71.1	March 23	70.8
* March 28	75.3	March 30	71.6
* April 4	80.5	April 6	70.8
* April 11	82.7	April 13	68.7

The following statistics show the number of mills reporting by ratio groups:

NUMBER OF MILLS REPORTING, CURRENT WEEKS

Ratio Limits	March 7 1936	March 14 1936	March 21 1936	March 28 1936	April 4 1936	April 11 1936
0% to 50%	74	84	142	123	83	49
51% to 100%	265	252	195	214	246	208
Total Mills Reporting	339	336	337	337	329	257

* Subject to revision until all reports are received.
These data exclude (a)—Christmas Day, (b)—Fourth of July, (c)—Labor Day.

PAPERBOARD OPERATING RATIOS

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours," were as follows:

1934		1935		1935		1935		1936	
Sept.	62%	Jan.	61%	May	61%	Sept.	69%	Jan.	61%
Oct.	63	Feb.	67	June	65	Oct.	76	Feb.	67
Nov.	56	March	67	July	59	Nov.	70		
Dec. (a)	53	April	61	Aug.	65	Dec.	60		

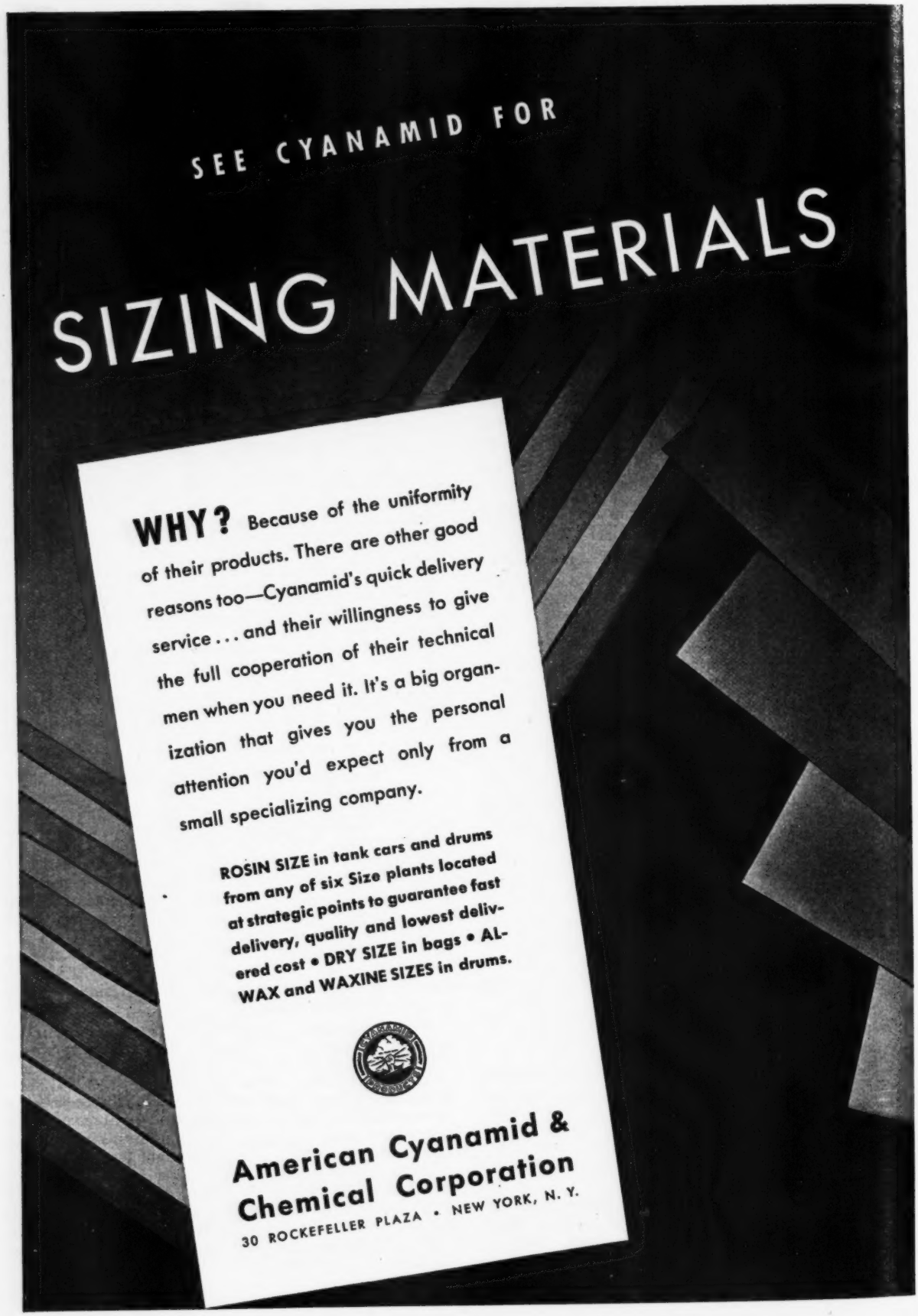
Week ending March 7, 1936	68%	Week ending March 28, 1936	65%
Week ending March 14, 1936	67	Week ending April 4, 1936	70
Week ending March 21, 1936	65	Week ending April 11, 1936	68

Newsprint Production Increases

Production of newsprint in Canada during March 1936 amounted to 243,900 tons and shipments to 239,253 tons according to the News Print Service Bureau. Production in the United States was 76,507 tons and shipments 74,300 tons, making a total United States and Canadian newsprint production of 320,407 tons and shipments of 313,553 tons. During March, 24,095 tons of newsprint were made in Newfoundland, so that the total North American production for the month amounted to 344,502 tons. Total production in March 1935 was 309,370 tons. There has been no newsprint production in Mexico since January because of labor troubles.

The Canadian mills produced 105,099 tons more in the first three months of 1936 than in the first three months of 1935, which was an increase of seventeen and nine tenths per cent. The output in the United States was 3,912 tons or one and seven tenths percent more than for the first three months of 1935; in Newfoundland 6,519 tons or eight percent less, and in Mexico 5,630 tons less, making a net increase of 96,862 tons, or ten and eight tenths percent.

Stocks of newsprint paper at Canadian mills were reported at 96,254 tons at the end of March and at United States mills 18,163 tons, making a combined total of 114,417 tons compared with 107,563 tons on February 29, 1936. There was still much tonnage at points from which water shipments will be made later.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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

New Applications and Developments in the Use of Starch in Paper*

By Jerome Strasser[1]

Your industry is going through a period of intensive technical and mechanical development. The starch industry has been somewhat tardy in analyzing the results of this activity and particularly in developing, by means of research, either new products or some basic facts that would be pertinent to this changing picture. We expect that you will find that the starch industry, in the future, will be of great help to you and a dependable ally so far as problems pertaining to the use of its products are concerned.

Stein Hall has been proceeding under the following program: First, we are doing some fundamental research with the view to getting basic facts. We are making no attempt to direct this work with either a specific product or industry in mind. Second, in conjunction with the Institute of Paper Chemistry we are following the same procedure; that is, we are trying to get facts on all starches and how they function under the many varying conditions of your business. Third, we are taking individual problems and using our laboratory and field men to aid in their solution. Fourth, we are working with some members of your industry on some major problems, the solution of which require the combined technical staffs and laboratories, the experimental manufacturing equipment of our plants and the paper machines for mill trials.

This work has given us a new perspective, although few new facts have come to light. The celluloses used in making paper and the starches have much in common. Chemically speaking they both are carbohydrates. The raw material for each is selected in view of the quantity available, its cost and properties. Nature has produced both materials from sugars. Starches, however, can be more easily converted back to the sugars than the cellulose. The pulps are a result of a series of processes whereby the fiber is extracted, impurities removed and treated chemically to obtain specific properties. Likewise the starches are the result of a separation process, removal of impurities and a subsequent treatment to modify or change the properties of the raw material into a product of given characteristics. The conversion of fiber or starch is made with the view of obtaining new properties or use factors not present in the raw material. In making paper, hydration is necessary to utilize the inherent characteristics of the pulp and it is the jelled or hydrated starch that develops the qualities, used by the paper maker. The exception is that hydration of fiber is obtained mechanically, whereas starch is hydrated by cooking, prior to its addition to the fiber or after addition to the fiber, utilizing the heat of the driers. Most of the desirable properties of cellulose used for paper are physical and the properties of starch that are useful in paper are also physical. Water is the common vehicle for distributing the properties of both.

In drawing a comparison between these carbohydrates, of course, it can be done only in the very broadest sense. In working with starch we are dealing with something about which we know very little. Most of our knowledge has been obtained through trial and error. We closely follow the cellulose research work of your industry hoping to find a clue to some of our problems. Analyzing the situation at the moment we find many theories on the use of starch in paper. There are many differences of opinion on how much of it to furnish, when to furnish it, the types to furnish in which the product is useful and methods of determining retention. The treatment of the stock, the weight of the paper, the variables of operation such as speed and drying account for some divergence of thought.

Starch An Adhesive and a Size

The factor of retention is cause for a great deal of discussion. The qualitative analysis is more easily determined than the quantitative. In charting the benefits of starch added to the beater, we find for example, that the curve goes up when we keep all factors equal but increase the weight. So we conclude that fundamentally the retention of starch is mechanical. The web acts as a filter.

The major advantages of a starch product in paper are as an adhesive and a size. Generally speaking, because of the small percentage of starch used in relation to fiber, differences in starch properties are less important than small changes in the furnish or its treatment. The type of starch product used depends on the handling facilities in the mills, types of furnish, freeness, method of obtain-

* Presented at the meeting of the Delaware Valley Section of the Technical Association of the Pulp and Paper Industry, Engineers Club, Philadelphia, Pa., March 27, 1936.

[1] Stein Hall Manufacturing Company, Chicago, Ill.

ing hydration and the use of factors of the finished product. Because the starch granule is many times smaller than the cellulose fiber, it can be concentrated more and better distributed. The modified starches are used in certain operations because their desirable characteristics are obtained using much less water than is needed with the thick boiling starches. As we degrade starch we destroy strength and viscosity. However, we are able to concentrate so much more of the converted starches in or on the sheet that the net result is decidedly in its favor for operations such as tubbing. It is this factor of concentration of solids that leads us to conclude, that the greater fluidity of the unmodified tapioca flours and potato starches, as compared to corn starch, is just as much responsible for their higher rating in adhesive value, as because of their greater cohesiveness and ability to form a better film.

Strength Factors

Contrary to common belief, most of the starches cannot be thought of as having a rated strength factor. Let me clarify that statement. We do not claim that in any given furnish one starch cannot be proven stronger than another. We mean, when a given percentage of starch is added to the furnish in the beater or added to the paper in the tub that such addition will guarantee a fixed gain in burst, fold, etc. The strength factor imparted by starch is in direct relation to the strength of the fiber. It is of no value to groundwood paper because the fiber itself is of low strength. However, starch is valuable in some groundwood papers because of the factor of printing or some other special use. We have tested and checked many sulphite and rag papers of equal weight, sized with an equal amount of the same starch added at the tub, and found the percentage of gain much greater in the rag paper. This is true in the gluing of woods in veneer plants. The stronger the raw material the stronger the plywood. The Forest Products Laboratory has made tests on the strength of the bond obtained with some tapioca flours and they have proven much higher than the strongest woods.

New Developments

The new developments as far as starches are concerned in the paper mills are clearly defined.

Method of Application

For instance beater starches and methods of using them are getting intensive scrutiny. Regardless of the method employed to determine retention we feel that there is room for much improvement in their use. Mills report retentions as low as 20 per cent and as high as 90 per cent. Starch performs some very desirable functions but not efficiently. For some mills the solution of improved usage is tub sizing. However, there is a large tonnage of printing papers where starch is of great value when dispersed in the sheet but of questionable value on the sheet in the form that it would be in, if tubbed. The solution to this problem seems to lie in taking starch out of the beater and adding it at the machine after formation. There are quite a few mills and individuals working in this direction. We are very hopeful about our own experiments and expect to know shortly if we have succeeded. We also look for an improved method of determining retention.

Modification by Enzymes

The development of the methods of obtaining a modified starch by means of an enzyme is of importance. The organizations selling enzymes have done a splendid job of research. They have spent a good many years working on this problem. It has taken much laborious work on many enzymes, checking innumerable time and temperature factors to bring this development up to its present status. We also have done much work on this problem. Using the results of our work to date as a basis and foundation for future research, we find that the program we have projected will require at least two years to consummate. However, taking stock of the situation at the moment we feel that there are some paper mills that can use the type of product produced by this method. A careful analysis of the use of the paper, method of treatment and type of starch used will determine where this method can best be used.

Starch for Coated Papers

Another development is the increased use and interest in starch in coating. Here was a case of a good product that received a bad name because of the failure of our industry in not utililizing a fine opportunity during the war. Some satisfactory starch products made today were available then. Either they were not given consideration or used without analyzing the differences between them and casein, or were incorrectly applied to the operation. The result was that the sales resistance to a starch coated sheet stopped all progress. In the interim the use of starch in the art progressed in England. We learn that some of the starch coated paper and printing produced abroad is highly regarded by our best authorities. There are indications at present that more of the printers are considering the merits of the starch coated paper with an open mind. We look for some real and rapid progress in this field although the indications are that it will result in a new type of operation and different types of starch than those with which the coating mills have been familiar.

In conclusion may I say this is an attempt to summarize some theories, some facts and some plans. In a meeting which is attended by men whose problems are not related, because of the different grades of paper they manufacture, it is hard to pick a phase which would be of universal interest.

The foregoing thoughts were presented in the hope that in a discussion of those which were of general interest a more complete picture would evolve.

John Schuber with Solvay Process Co.

John Schuber, who recently resigned his position as technical director, St. Regis Paper Company, is now connected with the Solvay Process Company, Syracuse, N. Y., in the Technical Service Department, Pulp and Paper Division.

The Solvay Process Company is installing a modern pulp and paper laboratory for its Technical Service Department. Mr. Schuber has done considerable work in the bleaching of soda, sulphite and kraft pulps, commercially and in the laboratory, and it is along these and allied lines that his new connections will serve the industry.

Leslie L. Larson Receives Scholarship

Leslie L. Larson, Potlatch Forests Fellow of the School of Forestry of the University of Idaho, has received a scholarship at the Institute of Paper Chemistry, Appleton, Wis., for graduate work leading to the Ph.D. degree.

Mr. Larson, after graduating in chemistry at the University of Idaho, was appointed to a Potlatch Forests fellowship in 1934, by the Idaho School of Forestry. He will receive his Mater's degree this June. Mr. Larson's work at the Idaho School of Forestry is in wood chemistry.

His appointment at the Institute of Paper Chemistry is effective next fall.

Non-Fibrous Raw Materials (1935-1936)*

Compiled by James A. Lee[1]

The Non-Fibrous Raw Materials Committee in its annual report to the Association calls attention to newly developed materials as well as important conditions that are affecting the price situation among chemicals used in the industry. During the past year or two changes have come in rapid fire succession. As a whole the prices of chemicals have been advancing slowly and there are prospects for further increases in certain of the raw materials, while in others there are developments which may have a disturbing influence on the future price trends.

The end of the codes in May had its influence on the prices of lime and other materials, attempts at market control through sale allotments and loans to producers affected naval stores, the various war scares had their reaction on prices of these commodities, and the decision of the Supreme Court declaring processing taxes unconstitutional had its influence on corn starch.

Among the developments that may have important influences on future price trends might be sighted a definite shortage of high-grade aluminum ores and its possible effect on alum, and the development tending to eliminate entirely the use of alum particularly in those cases where alum has been used to overcome pitch difficulties; and the recovery of sulphur from zinc plant gases or from Canadian pyrites. All of these changes have important bearing on present manufacturing processes and should be of interest to many engineers in the industry.

Lime

The abandonment last May of the Code of Fair Competition for the Lime Industry, which became effective in October, 1933, and which was instrumental in alleviating to a great extent the critical economic situation which has prevailed for several years, has resulted in a gradual weakening of price structure, in spite of stabilization efforts by most of the producers. The general improvement in industrial demand the last part of the year undoubtedly helped to check this downward trend. If this improvement continues as the general outlook for 1936 promises, consumption will increase accordingly, and it is reasonable to expect further strengthening of lime prices commensurate with increased cost of labor and raw materials. As in so many other industries, such a trend is badly needed, after the devastating effects of the depression years.

Chemical and physical research in the lime industry has of necessity been greatly curtailed since the boom times of 1928 and 1929, most producers finding even a control laboratory a considerable burden. It is to be hoped that a return to a profit basis will bring about increased research activity, for which there is such an extensive field. It is encouraging to note in this connection that several lime manufacturers have continued their research activities in spite of the fact that conditions have not justified this expense.

With the exception of an increasing tendency toward the use of bulk lime in place of hydrated lime by paper mills having large requirements, the year has seen little change in the application of lime to the several uses of the industry. The increased use of this bulk lime, or calcium oxide, has resulted in the development of more efficient slaking equipment, and further improvement can be looked for. For the smaller consumer, however, it is still more economical to purchase hydrated lime in air-tight paper bags, the slightly higher cost being more than balanced by lack of deterioration over reasonably long periods of time; handling, storage, and weighing advantages; and elimination of losses due to improper and unskilled hydrating.

The transportation of lime products encountered no difficulties during the past year. Car supply and service to destination almost without exception has been adequate. The adjustment of lime rates from, to and between Trunk Line Association points, is still the subject of litigation in I. & S. Docket 4065. In the meantime the suspended dual rates have been further postponed until Feb. 20, 1936, and if no decision is reached by that time, there will be a further postponement. After litigation under I. & S. Dockets 3742, 3776 and 3994, dual minimum rates on lime from, to and between points in Southwestern territory became effective Sept. 20, 1935, in compliance with order of Interstate Commerce Commission.

The matter of dealing with a general revision in rates on lime from, to and between points in Western Trunk Line territory, after years of controversy has finally reached a settlement. The interested lines approved the dual rates under Western Trunk Lines application D25-4, with the exception of points on northern lines in northern Minnesota and northern Dakota. It is expected that this settlement of rates in Western Trunk Line territory will make possible an early adjustment of rates in Illinois Freight Association territory.

A process for making use of waste sulphite liquors has been developed by the Marathon Paper Mills Co. of Rothschild, Wis. Chemicals and other materials in waste liquors will be reclaimed, some to be used over again, and others to be marketed as byproducts. This process involving a precipitation treatment with lime, will in addition to recovering chemicals and other materials do much toward the elimination of stream pollution difficulties.

Production and market data on lime during 1935 is not available at this writing. During 1934 all producers in the United States shipped 2,397,087 tons of lime valued at $17,164,024, these figures representing an increase of 6 per cent in quantity, and 20 per cent in value, compared with 1933. Of this lime, 1,663,591 tons valued at $11,425,031 was used for chemical purposes, these figures representing an increase of 12 per cent in quantity and 25 per cent in value. Of the lime sold for chemical uses, the paper industry consumed 293,798 tons or 12.3 per cent valued at $1,899,053.

The average prices on chemical lime prevailing during 1935, f.o.b., the lime plant were as follows:

Bulk or quick lime	$7.12 per ton
Hydrated lime	9.05 per ton

These prices subject to the customary trade discount of 25 cents per ton.

Soda Ash

Soda ash continues to be the most important of the soda alkalis used in the pulp and paper industry. It finds use not only in the manufacture of various types of pulp but has application in several other phases of paper mill operation.

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* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, N. Y., Feb. 17-20, 1936.

[1] Chairman TAPPI Non-Fibrous Raw Materials Committee, Managing Editor, Chemical and Metallurgical Engineering, New York, N. Y.

In spite of continued efforts to improve the de-inking of waste paper, soda ash continues to be the preferred chemical. When using soda ash the alkali cost forms only a comparatively small part of the total cost of de-inking, inasmuch as heat in the form of steam, or its equivalent, is of major importance.

In the production of soda pulp, it is, of course, usually necessary to make up alkali losses by the addition of fresh soda ash. There are some cases, however, in which the alkali loss may be made up by the use of waste liquor from artificial silk plants. This is possible providing this source of supply is sufficiently close, so that the transportation charges on excess water will not exceed the differential in the unit cost of the alkali.

The specifications for straw pulp board used in making corrugated board have become more rigid, thus necessitating accelerated digester operation as well as a cleaner pulp. A limited amount of soda ash added to the lime cook tends to produce these results.

Certain types of kraft board require a cook having a comparatively high caustic soda content. The cheapest method of maintaining this high concentration is to introduce soda ash in the green liquors in sufficient quantity to take care of the total alkali shrinkage in the process.

A caustic digestion is usually preferred in the manufacture of the best type of rag pulp. This is frequently accomplished with equally good results by digesting the rags with milk of lime and soda ash.

Aside from these specific uses soda ash finds many general uses in paper mills as an aid in cleaning up of stock chests, sumps and other equipment where contamination of pulp is liable to take place.

Large users of soda ash find it convenient and economical to purchase this material in bulk form. Where suitable loading equipment is not available, and a dusty condition might be encountered, it is possible to use a dense type of soda ash which is practically free from dust. This material is slightly more costly than ordinary soda ash, but in bulk it is generally cheaper than ordinary soda ash in bags or barrels.

Clay

China Clay, Kaolin, and other fillers were all fairly uniform in price during the year of 1935. Air-floated clay sold at $6.00 to $6.50 in bulk, f.o.b. mines, whereas water washed clay was $7.50 to $20.00, depending on the grade and classification.

Considerable amount of work was done by the domestic producers on the classifying of clays as to particle size, which greatly assisted the domestic coating mill operation in delivering a much more uniform type of raw material.

Tonnage as a whole of the domestic clay producer was up approximately 20 per cent. Most of this increase was due to the larger volume of business enjoyed by the paper mills during the last half of 1935. Code conditions were followed very closely by the clay producers, as to wages and hours during the entire year, and while volume was particularly good, profits for the producers were not better than normal.

The demands for calcium carbonate as a filler were just about the same as in 1934; most mills still producing their own, as before. High refractive index pigments enjoyed a very fine increase in volume, due particularly to the development of new types of papers by the manufacturers.

Salt Cake

The supply of crude sodium sulphate, or salt cake, as it is generally known, has become of increasing importance as a raw material in the last few years due to the rapid expansion of the production of kraft pulp in the United States.

A few years ago, practically the entire supply of salt cake was obtained as a byproduct of the manufacture of muriatic and nitric acids in this country, but the tonnage available from such sources today would not begin to supply the demand of the kraft mills alone, to say nothing of the large quantities used annually by the glass and chemical manufacturers. The supply of byproduct salt cake has also been materially reduced in the last few years due to changes in the method of producing muriatic and nitric acids. Therefore the kraft mills have found it necessary to turn to other sources of supply and for the last eight or ten years increasing quantities of salt cake have been imported from Europe, mainly Germany and Belgium—Germany alone supplying approximately 100,000 tons per year during the last few years, and Belgium supplying in the neighborhood of 25,000 tons per year.

Deposits of natural salt cake located in various parts of the United States and Canada have been developed during the last five or six years and are now supplying a considerable part of the tonnage used by the pulp industry. Deposits in California, Utah, Arizona and Texas and also in the Province of Saskatchewan in Canada are turning out an excellent quality of salt cake.

The cost of transportation from most of these natural deposits to the consuming centers is still relatively high, thus making the delivered cost of the salt cake to many mills prohibitive. Much has been done lately, however, in getting reductions in freight rates and we may look forward to these deposits becoming of increasing importance in the next few years.

The price of salt cake has been remarkably steady during the last two or three years, quotations seldom varying more than 50 cents per ton during the entire period. With increased production costs which may be looked for in the near future, and the demand for salt cake from new sulphate mills, which will be coming into production within the next year or two, there is every reason to believe that the price of salt cake will go higher unless new sources of supply are made available.

Caustic Soda

The following figures taken from the annual estimates made by Chemical & Metallurgical Engineering indicate the total consumption of caustic soda in the United States and the quantity consumed by the pulp and paper industry:

(Unit 1,000 short tons)

	1935	1934	1933	1932	1931	1930	1929	1928	1927
Total consumption...	716	651.5	645	587	634	652	759	598	554
Paper consumption...	35	30	40	34	36.5	42	45	33	33
Paper consumption as per cent of total..	4.9	4.6	6.2	5.8	5.8	6.4	5.9	5.5	6.0

The average annual caustic soda consumption for this nine-year period is 644,000 tons. While this average is not a perfect yardstick, due to the influence of the abnormally high consumption in 1929, it will serve to show that caustic soda, by comparison with other materials, has suffered comparatively little by the recent adverse business conditions.

It is interesting to note that the consumption of caustic soda by the paper industry has kept in step up to 1934 with the total consumption of this material, as indicated by the above percentage figures. It is expected that the consumption of caustic soda, by the pulp and paper industry, will increase not only because of improved business, but because caustic soda is finding use as a neutralizing agent in the multi-stage chlorine bleaching processes, which will be used to a greater extent. While caustic soda production capacity has increased, this must be regarded only as keeping step with the consumption trend and as insurance

that the rapidly increasing requirements of the country's industries will be adequately met.

Notwithstanding the substantial inventories in the hands of manufacturers of this commodity, the price structure for it has remained relatively stable for contracts for delivery throughout 1936 and it is apparent from the figures above that the rate of increased consumption will shortly liquidate any excess stocks that may be overhanging the market.

Chlorine

The use of chlorine in the paper industry in 1935 has not been appreciably affected by multi-stage bleaching employing both chlorine and a hypochlorite. Such processes by themselves consume less chlorine but such lessened consumption appears to have been taken up substantially by increased bleaching of sulphite replacing imported bleached pulp and by the increasing domestic production of bleached kraft.

The steady increase in the use of chlorine or chloramine in the treatment and prevention of paper mill slimes while not providing much tonnage is of great technical importance. It appears to date to be the answer not only to slimes but to white water recovery with closed systems and the abatement of stream pollution. Paper mill slimes are to some degree related to general water and sewage problems in which fields chlorine plays a very important part. Also within these general considerations as to water and sewage is the chlorine treatment of condenser slimes on the water side of condenser tubes. Such treatment is now standard practice with large steam power plants and savings in the coal pile or in fuel oil are of a very substantial order.

Sulphur

The position of sulphur in the pulp and paper industry showed no appreciable change during 1935. An increase in the output of newsprint is reflected in the sales of sulphur to the industry. Prices have remained unchanged.

During the year some interest was shown in a process to produce sulphur from Canadian pyrites. This process which is based upon chlorination is being tested by Sulphide Corp. and Hooker Electrochemical Co.

Another development of 1935 was the report that The Consolidated Mining and Smelting Co. of Canada, Ltd., at Trail, B. C., were building a plant to extract sulphur dioxide from zinc plant gases. They proposed to use this sulphur dioxide to increase their production of sulphuric acid and further to produce elemental sulphur. Production of sulphur by this method depends upon many economic factors.

The sulphur industry is watching with keen interest developments of a pulp and paper industry in the South which would use southern pine. This may afford a new outlet for sulphur into the paper industry. Another item which is of interest to the sulphur industry is the additional use of sulphur in the kraft industry.

Titanium Pigments

The use of titanium pigments by the paper industry has increased rapidly during the past few years. The manufacturers of these products have now developed pigments with properties that make them suitable for use either in the beater or for application to the surface of papers by the ordinary coating process or processes in which the pigment is applied during the primary paper making operation. These pigments are now being used in papers or boards where high opacity or brightness is of prime importance. The volume being annually consumed has reached a figure which definitely establishes these pigments as important raw materials in the manufacture of several different types of paper.

The regular titanium pigments available to the paper makers are: 1. Titanium dioxide, which is commercially pure titanium dioxide; 2. A titanium calcium base pigment which has an approximate chemical composition of 30 per cent TiO_2 and 70 per cent calcium sulphate; 3. A titanium-barium base pigment composed of approximately 25 per cent TiO_2 and 75 per cent barium sulphate; 4. A titanated lithopone with an approximate chemical composition of 15 per cent titanium dioxide, 25 per cent zinc sulphide and 40 per cent barium sulphate. The selection of the proper titanium pigment for use depends almost entirely upon the results required and local manufacturing conditions.

These pigments cost more than the ordinary paper fillers such as clay, etc., and are more expensive to use. However, in spite of this the results obtained in many types of papers justify this extra expense. This is especially true when, for any reason, maximum opacity or brightness with minimum pigmentation of the paper are desired.

Zinc Pigments

The trend in the paper industry toward products of greater opacity, and better color and brightness, has resulted in a continued demand for zinc pigments. Zinc oxide has only been used in coating formulas. The zinc sulphide pigments have been used for coating, also, and quite generally as fillers, particularly in the different types of print papers. With four distinct types of zinc sulphide pigments available, there has been a considerable program of testing by paper mills. There seems to be activity on the part of paper manufacturers in improving methods of applying light weight coatings, and zinc sulphide pigments are proving themselves especially adaptable, as they can be supplied in forms having excellent dispersing properties in water solutions.

Aside from these new pigments with excellent dispersing properties in water, there have been no new types of zinc sulphide pigments offered during the past year, nor have there been any changes in price.

Alum

The production curves on alum for the year 1935 show an increase reflecting greater activity in the paper field. Price trends during the year remained firm, although it is well to bear in mind that there have been several developments which may have a disturbing influence on future price trends.

The first of these is that it has been authoritatively reported that there may be a definite shortage of high-grade aluminum oxide ores due mainly to technical developments which have increased the use of the metal and its alloys. This development is by no means alarming and presaging any shortage of aluminum oxide ores but rather the influence that this may have in causing developments of lower grade ores and the consequent effect of higher production costs. Counterbalancing this disquieting news has been the technical development within the paper industry showing the harmful effects of acidity in the sheet introduced by the use of alum, and its possible effect upon future total alum consumption.

The second development tends to eliminate entirely the use of alum particularly in those cases where alum has been used to overcome pitch difficulty. These latter two developments are merely a step in the progress of the technical branch of the paper industry leading to a more intelligent use of raw materials.

Silicate of Soda

Silicate of soda is closely related to the progress of the paper industry and the allied fiber box industry although it is true that sodium silicate is usefully applied to many problems of general industry. The volume of silicate

of soda consumed during the year 1935 has remained quite stable and we may optimistically hope for an increasing consumption of this commodity during 1936. The cost of silicate of soda closely follows the alkali market from which the most important raw material used in the production of silicate of soda is taken.

The year has been fruitful in the production of a wider knowledge of sodium silicates and their uses. New applications have been developed, among which should be mentioned the use of modified silicate adhesives, which are of special interest to the fiber box industry.

Sodium silicates, to which have been added clays or other inert fillers under carefully controlled technique, are found to have improved wetting ability whereby such adhesives can easily take hold of the surfaces of all, or nearly all, of the papers currently used in the fabrication of fiber containers.

The alkali content of these adhesives is substantially reduced, thus lessening the danger of staining caused by alkali migration. The modified silicates contain substantially less water than the commercial adhesives silicates, and thus dry quickly and form rapid bonds.

The clay-filled silicates possess gel-like properties which enable the adhesive to remain where applied. These adhesives are thus satisfactory over a wide range of paper characteristics and machine conditions. Use of the silicate-clay adhesive should lead to new economies in operation and a finished product of improved quality.

Naval Stores

The price trend of rosin and turpentine during 1935 was influenced by an attempt at market control through sales allotments and loans to producers, and by the ultimate collapse of these plans. A loan plan had been tried in 1934 and a large amount of rosin and turpentine had been accumulated in Government hands as collateral for loans. In 1935 a similar loan policy was followed but the loan values were set higher than in 1934.

In the first quarter of 1935 there was a relatively firm market, this being a season when there is practically no production. Market prices declined at the beginning of the producing season and held fairly constant thereafter for several months by the loan plan with its sales allotment feature.

During this time stocks increased and the underlying situation was weak. This culminated in a decline in late summer following the suspension of the sales allotment plan. In the early fall the naval stores market prices reacted upward rather more than had occurred for several months, from \$3.77½ for "G" rosin at Savannah on August 6 to \$49.2½ on October 24. This was attributed by many to increased export demand due to war scares coming at a time when many dealers were without large stocks. Much of the production had gone into the hands of Commodity Credit Corp. as collateral for loans. Increased domestic demand due to better business conditions probably played some part but the reaction was short lived and the market for "G" grade at Savannah declined to about \$4.25. It is interesting that the year started with "G" at \$4.25 while this market was the posted price on several days in December.

Stocks of rosin and turpentine remain very high. A large portion of those stocks are held by Commodity Credit Corp. and the price trend will depend a great deal on marketing policy followed in deposing of those stocks. The new producing season will start in April with the industry free from artificial influences. The law of supply and demand will again govern and with large current supplies added to new production it will take greatly increased demand to cause any tremendous increase in market values as 1936 progresses. The outlook for export is poor and while domestic business should be better than 1935, it is not expected to be startlingly better and so the outlook is for moderate prices of rosin and turpentine for 1936.

Dyestuffs

During 1935, there was little change in the prices of dyestuffs used in the paper industry. Most prices have remained unchanged and where changes have occurred the tendency has been to slightly higher levels; increased costs have in most instances been absorbed by the dyestuff manufacturer. The consumption of dyestuffs has been very well sustained throughout the year.

Continued progress has been made with respect to brightness and dispersing properties in improving the tinting blues for whites. The tinting blues now available disperse so well in cold water that they may be added dry to the machine chest without the risk of color specks. They are so finely divided and disperse so well that when added to cold water they give the appearance of being in almost complete solution. Progress has also continued in the improvement of the solubility of direct dyestuffs, and dyes are now available which may be added dry to the beater without hazard.

During the past year there has been further progress in the use of organic chemical specialties possessing wetting out, detergent, solvent, emulsifying, penetrating and softening properties. The detergent and wetting properties of the fat alcohol sulphates have been utilized for the continuous washing of felts in order to prolong the life of the felt and maintain the output of first quality production at higher levels. Emulsifying agents made from fat alcohol sulphates have found use in connection with pitch and grease troubles and also as effective components of wax emulsions, etc.

Penetrating agents such as the alkyl naphthalene sulphonates and fat alcohol sulphates have found considerable use in calender coloring and dip dyeing to prevent streaky and blotchy color effects and to improve the finish. These products have also been used as softening agents and to improve the absorbency of toilet tissue, paper towels, webbing, and pliable papers. Considerable thought has been given to the use of these products for pulp cooking and many other possible adaptations have been studied by the paper makers for the improvement of processes and quality.

Starch

Starch continues to play an important part in the paper industry where it is used in beaters, tubs and calender stacks. Prices of corn starch remained firm until November when the new corn crop became available. Special paper making starch closed the year at \$2.79 per 100 lb. bags, Chicago, declining from the high of \$3.25 earlier in the year. High grades tapioca firmed up during the year and closed in this position.

Since the processing tax on corn affected the price of corn starch, this report should mention the decision of the Supreme Court on Jan. 6, 1936, declaring the processing taxes unconstitutional. The removal of this tax from corn effected a reduction of 14 cents per 100 lbs. on the price of corn starch which, on Jan. 7th, became \$2.65 per 100 lbs. f.o.b. Chicago.

Casein

The price of casein during 1935 fluctuated from a low of 10 cents per lb. reached in August to a high of 15 cents per lb. which prevailed during the greater part of December. Purchases were at a high level during

the last quarter of the year when supplies of domestic casein were below normal. This scarcity was occasioned by the increased demand for cheese due to the higher prices for meat products, which reduced skimming operations, and by the higher prices prevailing for other skim milk products such as powder and condensed, which diverted considerable skim to this manufacture.

Imported casein was not a large factor at any time during the year, although during November and December the importations increased sharply and reached an estimated total for the year of 1200 tons of Argentine and 400 tons of French. In former years Argentine casein exercised some stabilizing effect on the domestic market, but this has not been the case at the prices prevailing for the last several years. The duty of 5½ cents per lb. on imported casein makes this market less attractive than formerly. The sale of Argentine casein is in very strong hands and for several years the price duty paid has been maintained at least at the level of the domestic and in many cases a premium is demanded.

The price situation on casein during the past year was unsatisfactory. Casein which sold at 10 cents per lb. represented a loss either to the producer or someone between the manufacturer and consumer. Conversely the price of 15 cents at which a considerable tonnage was moved during December, was unsatisfactory to the consumer.

The quality of domestic casein has continued to improve and the output of the large manufacturers, especially those grades made in plants designed solely for the manufacture of casein, is considered superior by many users to both Argentine and French. Extensive research is being carried on so that the constantly higher standards of consumers can be met.

Plasticizers

Glycerine is still the most widely used plasticizer. It is one of the most efficient softening agents known. Unfortunately its hygroscopic, or moisture retaining property to which it owes a large part of its efficiency, is also its most serious drawback. Paper treated with glycerine is very soft and flexible but tends to become damp and soggy with an unpleasant feel at high humidities. This effect is, of course, more apparent as the percentage of glycerine in the paper is increased. The large amount of moisture retained is particularly objectionable in papers which are to be coated with various preparations or lacquered. The coatings sometimes peel off completely and, in the case of lacquer, discolorations known as blushing or blooming appear. This drawback may be minimized by replacing all or part of the glycerine with other materials not so hygroscopic in nature.

The paper products in which glycerine is used are too numerous to list separately. Among the more important are: glassine; various types of wrappers which may or may not be subsequently waxed; coated and glazed papers; base stock for window shades and oil cloth; gummed papers and papers treated with glue for gaskets; various types of bag papers and a host of small specialty items.

Perhaps the plasticizer most rapidly coming into prominance is invert sugar. Its use may be said to be second only to glycerine. It has been successfully substituted for all or part of the glycerine formerly used in nearly every plasticized paper product. It is hygroscopic, but holds much less moisture than glycerine at high humidities. It contains no traces of oil or grease which would be deleterious in coatings or in lacquer covered sheets. It is water soluble, easily handled and can be made in a variety of forms that permit adjustment to different applications. These properties, together with its attractive price have led to its adoption not only in papers previously softened with other agents but also to its use in products where no softeners have hitherto been used. Foremost among these products are various fine surfacesized papers, such as wedding, writing, envelope, offset, index, cover and ledger stocks. Several benefits have been observed here—notably increased folding and tearing strengths and smoother surface with less tendency towards fuzz. It also helps to reduce curling. Its chief drawbacks are: its tacky nature, which sometimes causes trouble; and the fact that, being a sugar, it will caramelize and cause discoloration if excessively heated.

Corn syrup, or glucose, and purified corn sugar are also rather widely used. The former in the coating and glazing industry, where it serves to overcome curling on drying, in the waxing industry where it is found to produce a satisfactorily soft product and in various specialties where a degree of softness is needed without much increase in production costs. The latter is used principally in glassine, where, in combination with glycerine it serves to make the product more flexible. These corn products are the least expensive of the plasticizers. Their bad features are their low moisture retention, their tackiness, and the caramelization on excessive heating.

Sulphonated oils, such as castor and olive, are used mostly in coated and glazed papers. They produce flexible coatings which spread well and do not curl on drying. They are more expensive than the sugars and sometimes contain residual mineral acid, as well as fatty acids which are harmful. Sulphonated castor oil is rather sticky for some purposes.

Other softeners which are being considered but which have not attained any widespread use are, mono-, di-, and tri-ethylene glycol, sorbitol, and various types of water miscible mineral oils. These substances are relatively expensive, some have an objectionable odor and some are rather too tacky. Little is known of their possibilities as yet.

Current quotations on plasticizers are as follows:

Glycerine (C. P.)	.14-.14½
Glycerine (dynamite)	.13¾
Invert sugar	.4½-.5½
Corn syrup	3.18-3.23 cwt.
Corn sugar (cerelose)	3.75-3.80 cwt.
Sulphonated castor oil	.8-.13½
Sulphonated olive oil	.9-.14
Sorbitol	.20
Di-ethylene glycol	.17½

All these plasticizers are incorporated in paper by means of size tubs or size presses, by kiss rolls, or by sprays—either mechanical or air driven. In the case of water finished or calender sized products, a plasticizer may be added at the water-box. Beater application of plasticizers is hardly practical, due to the difficulty in securing sufficient retention in the sheet.

In coated glazed papers the plasticizer is mixed with the prepared coating or glazing materials. On gummed papers the softener is added to the prepared gum, either animal or vegetable, before gumming.

Petroleum Products

Last year there was a steady increase in the demand for refined wax which, with the slight advance in crude prices toward the end of the year, resulted in a small advance in prices for contracts covering the first half of 1936. Should crude prices continue to advance and the demand remain steady or increase due to an indicated increase in foreign demand, there is prospect for further advances in price.

The increase in consumption during 1935 is no doubt due to improved business conditions with established uses. No outstanding new uses were developed during the year in the industry.

The chief activity from the standpoint of technical development in refined wax has to do with improved thermal or chemical stability. One manufacturer reports definite progress along this line.

During the past month products of this type have found an increasing demand in the paper industry for use as a sizing material and for laminating purposes. While there has been no change in the market structure for these products, there is definite possibility of price advances due to firmer demands traceable to new applications of waxes of this type chiefly outside of the paper industry.

Considerable quantities of these products are used in the manufacture of specialty papers, largely used for wrapping fruit, meat, et cetera. Although remaining firm, there was no change in the market during 1935 and little or none is anticipated in 1936 unless the crude markets stiffen more than is at present indicated.

There has been considerable work in the oil and paper industries devoted to an investigation of the causes of bad odor difficulties sometimes encountered in the use of papers made with these products. No reports of this work are as yet available, but it is understood that the causes for such troubles are becoming manifest as the work continues. With the next report of this committee will probably come specific information on this item.

Pacific Coast

Three large concerns supply the chlorine requirements for the Pacific Coast pulp mills. Two are located at Tacoma, Wash., and one in the San Francisco Bay region. Liquid chlorine is shipped by rail in 15 and 30 ton single unit cars, also in multi-unit cars holding fifteen 1-ton tanks. Single 1-ton containers are also shipped by water and by truck.

Limestone is produced on the San Juan Islands (Puget Sound), on the coast of British Columbia and in the eastern parts of Oregon and Washington. The operating companies supply limestone, hydrated lime and quicklime either in bulk or in bags.

Texas is still the only source of sulphur for the Pacific Coast pulp industry. Shipments are made by boat, usually directly to the mills, except in the cases of inland plants where an additional rail haul is necessary.

There are three sources of salt cake supplying the kraft mills of the Pacific Coast, viz; German salt cake from Kaiseroda, Chilian salt cake and salt cake from one desert operation in California; all of high quality. An explosive plant has available a small amount of niter cake as by product which is used by one kraft mill.

Soda ash for most purposes is derived from plants in California working natural alkali. The small amount used in size is procured from ammonia soda plants in the East or South.

An increasing amount of caustic soda, both solid and 50 per cent solution is used by the mills in the bleaching operations. Alum is used by the Pacific Coast pulp mills to a large extent for size, water purification and pH control. Two California plants supply the largest part of the requirements.

The largest percentage of West Coast paper and board and all the higher grade paper is sized with prepared size made locally, which moves in tank cars or large drums in form of a heavy paste. Owing to the favorable shipping conditions and freight rates on the liquid size, few of the mills are interested in dry rosin size. Very few mills make their own size from crude rosin.

Both anhydrous ammonia and ammonia salts are used in increasing quantities in the preparation of chloramine for combating pulp slime. Chloramine can either be made in situ by adding measured amounts of chlorine and ammonia to fresh water or white water, or else in a batch process by mixing dilute bleach liquor with a dilute solution of sulphate of ammonia.

Zinc hydrosulphite has found increasing uses for brightening western groundwood. Hemlock grown in the moderate zone of Oregon, Washington and British Columbia is much darker in color than eastern Spruce and competitive marketing of newsprint made the brightening necessary. The large newsprint mills manufacture their own zinc hydrosulphite in solution under license, while the smaller users purchase the same in solid form from a plant located in California. Besides newsprint, zinc hydrosulphite has found uses in brightening kraft pulp, specialty papers and liners of paper boards.

Members of Committee and Subjects on Which Each Reported

Lime—O. L. Cook, Sales Manager, Lehigh Lime Company, Chicago, Ill.
Soda Ash—Herbert Philipp, Solvay Process Company, Syracuse, N. Y.
Salt Cake—Guy H. Gardner, Gottesman & Co., New York, N. Y.
Caustic Soda—J. A. Kienle, vice president, Mathieson Alkali Works, New York, N. Y.
Chlorine—S. W. Jacobs, vice president, Electro Bleaching Gas Company, New York, N. Y.
Sulphur—J. T. Claiborne, vice president, Freeport Sulphur Company, New York, N. Y.
Titanium Pigments—O. F. Lane, Krebs Pigment and Color Corporation, Newark, N. J.
Zinc Pigments—R. Davison, New Jersey Zinc Company, New York, N. Y.
Alum—F. A. Abbiati, Merrimac Chemical Company, Everett, Mass.
Silicate of Soda—Russell Morehouse, Philadelphia Quartz Company, Philadelphia, Pa.
Naval Stores—A. C. Dreshfield, Paper Makers Chemical Company, Kalamazoo, Mich.
Dyestuffs—C. F. Schaumann, Dyestuffs Division, E. I. du Pont de Nemours & Co., Wilmington, Del.
Starch—H. A. Crown, Corn Products Sales Company, New York, N. Y.
Casein—E. Y. Burckhalter, Dept. Sales Manager, American Cyanamid and Chemical Corporation, New York, N. Y.
Plasticizers—N. R. Pike, Nulomoline Company, New York, N. Y.
Petroleum Products—H. J. Saladin, Manager of Technical Department, Standard Oil Company, Chicago, Ill.
Clay—C. H. Champion, R. T. Vanderbilt Co., New York, N. Y.
Pacific Coast—W. Hirschkind, vice president, Great Western Electro Chemical Company, Pittsburg, Cal.

Liquidating Philemon Creek Paper Co.

BROWNSVILLE, N. Y., April 20, 1936—Announcement is made that Judge John Conboy will not only have charge of the liquidation of the insolvent Philemon Creek Paper Company's assets but will also determine their proper allocation. This is to be accomplished under bankruptcy laws pursuant to which the company made an unsuccessful attempt to reorganize several months ago. The affairs are said to be in poor shape. The plant was recently sold at public auction under foreclosure of a mortgage held by the Northern New York Trust Company, which was forced to bid in the property. Recently, the bank disposed of it to Abe Cooper, junk dealer, who will probably raze the structure. Mr. Cooper has also claimed the office equipment which he alleges was covered by the mortgage. This item and about $600 worth of old paper claimed by the Great Lakes Paper Stock Company are in dispute. Also it is understood there is an item of claim by the Internal Revenue Department for income taxes. Other disputed items are claims for labor and materials which, it is said, will complicate the situation.

Goes With Cheney Pulp & Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

FRANKLIN, Ohio, April 20, 1936—Myron Wittmer, for several years assistant chemist at the Beckett Paper Company, Hamilton, Ohio, has joined the Cheney Pulp and Paper Company at Franklin, Ohio, and will be chief chemist in charge of their laboratory.

Report of Committee on Abstracts and Bibliography*

The Committee on Abstracts and Bibliography has been fairly active this year, particularly since it has been engaged in the compilation and manufacture of the second volume of the *Bibliography on Paper Making*. Its work is summarized in the following paragraphs.

Abstracts

During the past year there have been published in the *Technical Section* 97 pages of abstracts of periodical literature and patents. The relative volume of abstracts for the past ten years is shown in the following table:

Year	*Pages*	*Year*	*Pages*
1926	107	1931	171
1927	65	1932	140
1928	66	1933	80
1929	71	1934	151
1930	153	1935	97

The work of preparing the abstracts is largely in the hands of the members of the Committee, A. Papineau-Couture and John F. Ohlson; the Chairman is glad to acknowledge the efficient cooperation of these two men.

It is hoped that the *Technical Section* may be so organized that two pages of each issue may be devoted to abstracts; this would insure more prompt publication and thus greatly enhance the value of this important service to the industry.

Patents

Quarterly lists of United States patents have appeared as usual (PAPER TRADE JOURNAL, Jan. 10, April 11, July 18, Oct. 24, 1935), the four lists totalling 11 pages.

Indexes

The Chairman has prepared the indexes for volumes 99 and 100 of the *Technical Section*, the number of pages being 7 and 5, respectively. The index for volume 101 will appear in 1936. Reprints of these indexes may be secured upon request to the Secretary of the Association. Bound volumes of the *Technical Section* with these indexes furnish a practically complete survey of the paper making literature of the world.

Current Researches

Upon request of the Secretary, a survey was made of the current researches being conducted by University and Government laboratories of the United States and Canada. The information secured covered the following points about each investigation: name of project, names of investigators, purpose, accomplishments, work in progress, and support. In the United States returns were secured from the U. S. Department of Agriculture (Bureau of Chemistry and Soils, Bureau of Dairy Industry, and Forest Products Laboratory), National Bureau of Standards, and the Government Printing Office, and the following Universities: Alabama, Columbia, Idaho, Institute of Paper Chemistry, Iowa State College, Massachusetts Institute of Technology, Michigan, Minnesota, New York State College of Forestry, Ohio State, Oregon State Agricultural College, and Washington (*see* PAPER TRADE JOURNAL, May 16, 11 pages); for Canada returns were made by the Forest Products Laboratories, McGill University, and the National Research Council of Canada (*see* PAPER TRADE JOURNAL, August 15, 7 pages).

Waste Liquors and Gases

The first compilation of patents on waste liquors and gases of the paper industry was prepared in 1924 (PAPER TRADE JOURNAL, 81, nos. 14-26 and Technical Association Papers, 1926); this was continued in 1931 (PAPER TRADE JOURNAL, 92, nos. 3-5); during the present year the compilation has been brought up to date (PAPER TRADE JOURNAL, Nov. 28, Dec. 12, 19, 26, 1935; Jan. 2, 9, 16, 1936); altogether 1,351 patents on this subject have been collected and brief abstracts published. The patents are arranged chronologically by countries and at the end of the compilation there are subject and author indexes.

Bibliography of Paper Making, 1928-1935

The first supplement to the Chairman's Bibliography of Paper Making (which covered from 1900 to 1928) is fast becoming a reality. On October 1, 1935, over 14,250 cards were sent to the printer, and on February 1, 1936, 500 additional cards were returned with the galley proof. The best estimate at present is that the Bibliography covering the period 1928-1935 inclusive will make a book of some 750 pages of bibliography and at least an additional 100 pages of author and subject indexes.

This volume has been made possible through the financial support of the Technical Association, the editorial assistance of Mr. H. J. Berger, editor of the PAPER TRADE JOURNAL and the cooperation of the National Research Council, which has permitted the Chairman to spend a portion of his time in preparing the material for publication and in reading the proof.

Because of the expense of publication, a bibliography covering the literature and patents for 1935 will not be issued; all the bibliographic material gathered in 1935 has been incorporated in the collective volume. The new volume is more than a mere consolidation of the material published in the annual bibliographies since 1928. Many sources not available when these annual bibliographies were prepared have been checked and an effort has been made to include lists of the more important books on various topics.

With the publication of this volume, the literature of paper making for the period 1900 to 1935, by far the most active in the industry, especially from a research standpoint, will be available in two volumes. This is a service which no other Technical Association furnishes its members and it is believed that it is a most valuable service.

The Bibliography for 1928-1935 will be ready for distribution in April, 1936.

Photostats and Patents

Most of the periodicals covered by the abstract section will be found in one of the following four libraries: New York Public, Engineering Societies and Chemists' Club of New York City, and the Institute of Paper Chemistry,

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, Feb. 17-20, 1936.

Appleton, Wis. Photostats may be obtained from any of these libraries at a moderate charge per page. In this connection it may be mentioned that a new edition of the "List of Periodicals Abstracted by Chemical Abstracts, With Library Data" will appear in the fall of 1936. Information from 255 libraries in the United States and Canada will be included. It will appear first as a supplement to Chemical Abstracts and reprints may be secured for $1.00.

Requests for United States patents should be made to the United States Patent Office, Washington, D. C.; these patents cost ten cents each. Details regarding the purchase of foreign patents are given in the Committee's report for 1931 (PAPER TRADE JOURNAL, April 7, 1932, page 39) and in Chemical Abstracts, vol. 30, no. 1 (Jan. 10, 1936). A copy of these details will be sent upon request to the Chairman.

CLARENCE J. WEST, Chairman,
TAPPI Committee on Abstracts and Bibliography

Comparative Head Losses in Various Kinds of Pipe When Unbeaten Pulp of Certain Kinds and Consistencies are Being Pumped*

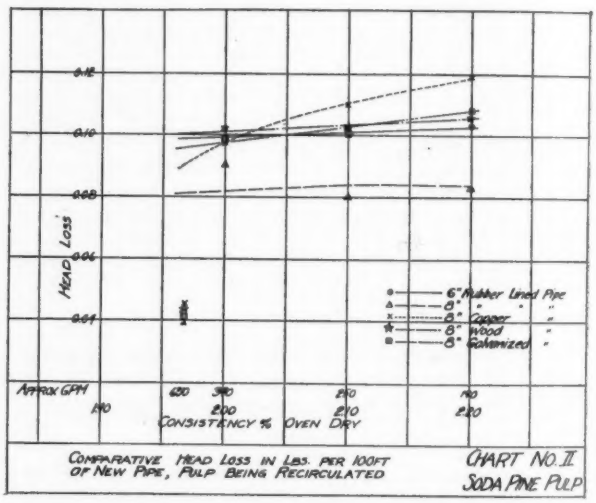
H. E. Fritz[1] and S. B. Jones[2]

The mill in which these reported tests were run is built on a long narrow strip of land bounded on one side by the river and on the other by a railroad. There is a pulp mill and seven paper machines.

A very large part of the fiber furnished to these machines is from slush pulp produced in the mill. Several grades are produced. Of these we chose two: the first, marked "Soda Pulp" is a straight soda pulp, the second, marked "Soda Pine Pulp" has characteristics somewhat similar to sulphite.

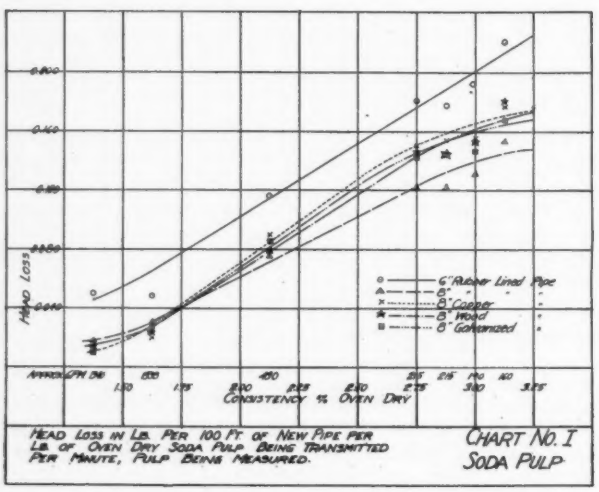
All pulps after leaving the pulp mill are pumped about 500 feet to a battery of six large stock chests and from these the pulp is pumped to the seven paper machines through lines, several of which are more than 1000 feet long.

The paper machines are equipped to make similar grades of paper. The piping system, therefore, must be prepared to deliver any pulp to any machine on short notice.

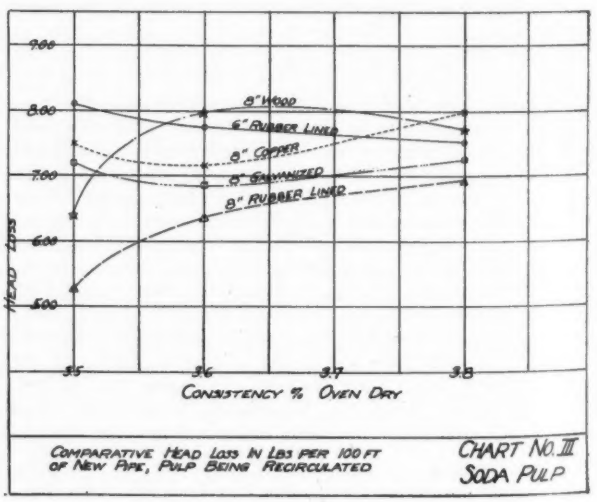


COMPARATIVE HEAD LOSS IN LBS. PER 100 FT OF NEW PIPE, PULP BEING RECIRCULATED — CHART NO. II SODA PINE PULP

The present piping system has been in operation for some years and its condition is such that the rapidly increasing maintenance cost made its renewal imperative.



HEAD LOSS IN LB. PER 100 FT. OF NEW PIPE PER LB. OF OVEN DRY SODA PULP BEING TRANSMITTED PER MINUTE, PULP BEING MEASURED. — CHART NO. I SODA PULP



COMPARATIVE HEAD LOSS IN LBS PER 100 FT OF NEW PIPE, PULP BEING RECIRCULATED — CHART NO. III SODA PULP

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, N. Y., Feb. 17 to 20, 1936.

[1] Chemical Sales Manager, Mechanical Division, B. F. Goodrich Rubber Company, Akron, Ohio.

[2] Member TAPPI, Engineering Department, West Virginia Pulp and Paper Company, Piedmont, W. Va.

The problem of how better to transfer this pulp was given serious study, the various systems of belts, blowers and pumps were discussed. In the end it was decided that the final decision should be deferred until a little more was known about what could be done in the transmission of these pulps at the consistencies at which they were already being pumped.

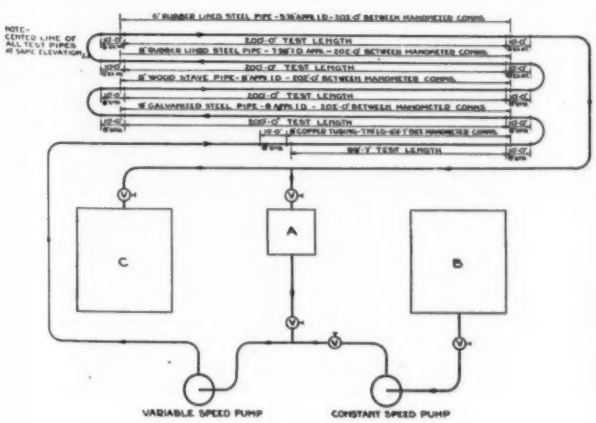
The consistency of the pulp as it now comes over from the pulp mill averages about 3 per cent and it is maintained at this consistency in the stock chests. In order to have a steady flow from these chests to the distributing pumps it is found necessary to reduce this consistency by the injection of water into the bottom of the chest to something below 2 per cent. Those knowing the difficulty of getting a uniform mixture of pulp and water will understand that from the nature of the case the pulp as delivered by these pumps would have a considerable variation in consistency tending to produce irregularities at the point of delivery. These irregularities were partly corrected at least by thickeners at the point of delivery but here as well as all other places were irregularities are permitted the process and the finished product are not benefited.

Water vs Pulp Pumping Characteristics

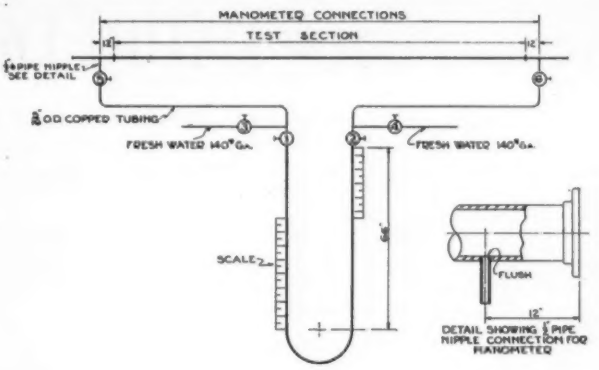
Some tests to obtain comparative losses at various consistencies were decided upon resulting in the layouts and the results herein reported. It is difficult for even those of us who have been accustomed for many years to work on problems of pumping pulp to appreciate the many difficulties that arise and the many failures that occur when the handling of pulp is attempted. When we think, however, of the many years of work, many thousands of dollars and many years of study that have been expended to determine definitely the law of the flow of water in pipes and remember that there are still many different formulas which are being continually modified, we do not feel so downhearted when we are upset by a pulp pumping problem.

Mixtures of pulp and water seem to be almost entirely "without the law" for we start off with the carrier—water—about which a lot is unknown and add to that pulp, the characteristics of which are much more complex, are much harder to determine and about which practically nothing is known.

Engineering tests in general may be checked from hour to hour and from point to point and wild points that show up may frequently be rechecked while the apparatus is still operating under the test conditions. When pumping pulp, however, the characteristic that most affects the results—



GENERAL TEST LAYOUT



MERCURY FILLED DIFFERENTIAL MANOMETER

EACH TEST SECTION WAS EQUIPPED WITH A SIMILAR MANOMETER

consistency, freeness, etc.—cannot be determined sufficiently rapid for any checks or corrections while a test is being run. Many points, therefore, will probably show up wild and the only way to obtain a smooth and truly representative curve is to run tests over and over again. Here we meet the problem of finding two pulps that are exactly alike.

Arrangement of Test Pipes

It was this realization of our inability to duplicate test conditions satisfactory that led us to arrange the test pipe sections in series so that at any instant the same quantity of the same material would be flowing through all pipes at any one time.

Being interested in the head loss across each section and not caring particularly about the pressure on the system at any one time, a differential manometer was installed for each test section, all these manometers being arranged side by side so that readings could be made most rapidly.

All the test pipe sections were laid parallel and as near together as could conveniently be done on a level platform so that no account need be taken of the difference in elevation between the ends of any test section. The distribution line from the last test section of the series leaded upward into a tank so that all the pipes should always run full.

As the test pipes were of different material any attempt to make manometer connections through the walls would have resulted in different conditions at every tap. Uniform taps were obtained by using steel pipe for all approach and departure connections of a size chosen to give as near as possible the same internal diameter as the test section to which it was connected. These internal diameters were within a few thousandths of each other and probably there was not a large enough difference to produce any measurable loss of head. As none of the test pipes were over 8 inches i. d. all the approach and departure pipes were made straight and 15 diameters (10 ft.) long. The end of the departure pipe from one section was connected by a return bend with the approach pipe of the next succeeding section giving us the parallel layout mentioned above.

Work Done Under Adverse Conditions

We believed when this set up was prepared and made that we would be in position to easily obtain real information that would be of value to use for our particular problem and of which we would know the family history and the paternity. It is with chastened spirits that we offer the information shown by the accompanying charts. Some of the chastening comes from having had to do our work outside in the coldest weather experienced in many years and to the plain cussedness of pulp.

Lake States TAPPI Discusses Paper Machines

The regular monthly meeting of the Lake States Section of the Technical Association of the Pulp and Paper Industry was held at 6:30 p. m., Tuesday, April 14, 1936 at the Conway Hotel in Appleton, Wis. About 140 members and guests attended.

After a brief business session at which Sidney D. Wells, the chairman presided, two reels of movies of the scenic Canadian territory to be traversed during the TAPPI summer meeting were shown.

E. E. Berry Speaks

The speaker of the evening, E. E. Berry of the Beloit Iron Works, then presented a paper entitled "Recent Advances in the Field of Paper Machines." The new removable Fourdrinier which makes it possible to change wires very rapidly without the customary danger of damaging the new wire was described briefly. The marked improvements which have been built into press sections were given detailed treatment. Numerous types of installations using suction press rolls were discussed. Advantages claimed for such installations include safer running, lower felt costs, simplicity of design and increased production.

The transition from the old gear drive to the silent enclosed chain drive for dried sections was discussed and the advantages described. The importance of lubrication of drier bearings was pointed out and a greatly improved method described.

Recent developments in board machines were also discussed with special emphasis being given to the use of newly designed forming cylinders and the use of suction drum presses.

Those in Attendance

Those who attended were as follows:

W. R. Clarke, Continental-Diamond Fibre Company, Milwaukee, Wis.; A. F. Kletzien, Fox River Paper Company, Appleton; C. M. Green, Mosinee Paper Mills, Mosinee, Wis.; J. R. Valentine, Fox River Paper Company; S. I. Aronovsky, Institute of Paper Chemistry, Appleton; R. Moltgan, Institute of Paper Chemistry; M. V. Molaberry, General Electric Company, Milwaukee, Wis.; J. A. Staidl, Thilmany Pulp and Paper Company, Kaukauna, Wis.; E. R. Williams, Neenah Paper Company, Neenah, Wis.; H. W. Cochnaver, Northern Paper Mills, Green Bay, Wis.; Wallace De Vos, Kimberly-Clark Corporation, Neenah, Wis.; J. E. Watson, Wisconsin Wire Works, Appleton, Wis.; E. H. Voigtman, Kimberly-Clark Corporation, Neenah; J. H. Graff, Institute of Paper Chemistry, Appleton; Herb Heilig, Appleton Vocational School, Appleton; Harold Woehler, Fox River Paper Company, Appleton; Joseph Krysiak, Wisconsin Tissue Mills, Menasha, Wis.; Howard Sheldon, Hoberg Paper and Fibre Company, Green Bay, Wis.; J. B. Roskams, Hoberg Paper and Fibre Company; J. P. Zelinske, Wisconsin Tissue Mills, Menasha; F. G. Sherman, E. F. Houghton and Company, Appleton; F. W. Stolz, Ft. Howard Paper Company, Green Bay, Wis.; E. W. Wheeler, Combined Locks Paper Company, Appleton; D. B. Wicker, Thilmany Pulp and Paper Company, Kaukauna; A. D. Wilkinson, Kimberly-Clark Corporation, Neenah, Wis.; Philip Nolan, Institute of Paper Chemistry, Appleton; L. A. Carpenter, Bergstrom Paper Company, Neenah; C. G. Russell Johnson, Kimberly-Clark Corporation, Neenah; R. A. Schmid, same company; A. G. Wakeman, Fox River Paper Company, Appleton; H. N. Baker, Kimberly Clark Corporation, Neenah; E. M. Leavitt, Thilmany Pulp and Paper Company, Kaukauna; W. E. Buchanan, Appleton Wire Works, Appleton; G. J. Maye, Appleton Wire Works, Appleton; Russell Brenzel Thilmany Pulp and Paper Company, Kaukauna; C. J. McMahon, Appleton Woolen Mills, Appleton; F. H. Johnson Jr., Chemipulp Process Inc., Watertown, N. Y.; M. K. Ketter, Hobert Paper and Fibre Company; Green Bay, Wis.; Rudolph Meyer, Badger Paper Mills, Peshtigo, Wis.; D. H. Beisel, Wadhams Oil Company, Milwaukee, Wis.; L. B. Penhallow, Wadhams Oil Company, Appleton; C. E. Saecker, Appleton Machine Company, Appleton; John D. C. Linz, Marathon Paper Mills, Menasha; E. A. Gritzmacher, same company; R. L. Youngson, same company; T. H. Ireland, Crane Company, Chicago, Ill.; H. W. Sherman, Northern Paper Mills, Green Bay; George Hermann, Hermann Manufacturing Company, Lancaster, Ohio; Otto Kress, Institute of Paper Chemistry; F. J. Timmerman, Northern Paper Mills, Green Bay; C. N. Jacobs, Taylor and Company, Norristown, Pa.; W. H. Burns, Valley Iron Works, Appleton; J. A. Hanson, Badger Paper Mills, Peshtigo, Wis.; G. A. Thompson Jr., B. F. Perkins & Son, Holyoke, Mass.; A. A. Coffin, Titanium Pigment Company, New York; E. E. Den Dooven, Hoberg Paper and Fibre Company, Green Bay; R. E. Kissel, same company; Vivian McAllister, same company; E. E. Berry, Beloit Iron Works, Beloit, Wis.; T. C. Roberts, same company; A. B. Green, Needham, Mass.; J. R. Fanselow, Kimberly-Clark Corporation, Neenah, Wis.; A. T. Gardner, Combined Locks Paper Company, Combined Locks, Wis.; E. C. Jacobi, Standard Oil Company (Indiana), Green Bay, Wis.; A. J. Hutchinson, same company; W. J. Plant, J. J. Plant and Company, Appleton; W. A. Johnson, Hoberg Paper and Fibre Company, Green Bay; W. Giese, Hoberg Paper and Fibre Company, Green Bay; John Tongren, Institute of Paper Chemistry, Appleton; Stephen Kukolich, Neenah Paper Company, Neenah, Wis.; W. A. Buchanan, Institute of Paper Chemistry; R. Vogt, Consolidated Water Paper and Paper Company, Wisconsin Rapids, Wis.; J. A. Extrom, Tomahawk Kraft Paper Company, Tomahawk, Wis.; E. F. Anderton, Institute of Paper Chemistry; G. E. Kreutzer, Tomahawk, Wis.; P. H. Dumas, Chrome Plating Company, Milwaukee, Wis.; George Riedel, Tomahawk Kraft Paper Company, Tomahawk; E. Thompson, Tomahawk, Wis.; F. D. Line, Mosinee Paper Mills, Mosinee, Wis.; Ernest Peterson, Mosinee Paper Mills.

Demolishing Mill at Pyrites

[FROM OUR REGULAR CORRESPONDENT]

PYRITES, N. Y., April 18—The task of demolishing the large mill here owned by the International Paper Company was started this week by a large force of workmen. The mill was closed in 1929 and despite rumors that the company planned to reopen it the machinery has been idle since that time. About 450 men were employed in the plant during the boom period when the village was mainly dependent upon it. Virtually all of the employees, however, have secured jobs elsewhere and the village presents a deserted appearance. Many of the dwellings here were also constructed by the company for the use of employees. The single track four-mile railroad, owned by the company, is also being torn up and the lumber salvaged from the railroad and mill is being shipped to Johnstown, Pa., to build dams in the flood area.

The mill was originally started by the old *New York World*.

International Technical Meeting

Instructive Papers, Interesting Mill Visits, Helpful Personal Contacts

By J. N. Stephenson

Not in the twenty years since we started attending the meetings of the Technical Section of the Canadian Pulp and Paper Association and the Technical Association of the Pulp and Paper Industry, have we known so fine a program as that arranged for the joint meeting in August. There are two whole days of technical papers and discussions, one in Montreal, and one on the steamer that will take the convention to the very heart of Quebec's great forests and water powers.

A day ashore at Quebec gives an opportunity to see one of the large modern newsprint plants of Anglo-Canadian Pulp and Paper Mills, whose manager, R. A. McInnis, is president of the Canadian Pulp and Paper Association, and whose research director, Dr. H. J. Rowley, is chairman of the Technical Section. Nearby is the mill of Donnacona Paper Company where both newsprint and wall board are made. During another day ashore at the head of the beautiful Saguenay River we shall see the new mill at Riverbend of the century-and-quarter old firm of Price Bros. & Co. where newsprint is being successfully made on 234 inch machines equipped with Minton driers. Nearby is the huge Isle Maligne power plant of Duke-Price Company, producing 550,000 hp. of hydro-energy. On the way back from here to the ship a visit will be made to one of the greatest industries of our time, the aluminum plant at Arvida of the Aluminum Company of America. Consolidated Paper Corporation has invited the technical men to visit its plant at Port Alfred. In this vicinity are also the plants of Price Bros. & Co. at Jonquiere, and Kenogami, and of Lake St. John Power and Paper Company at Dolbeau.

Before and after these industrial visits there will be plenty of opportunity for the visitors to discuss particular points of interest with members of the staffs of the different companies that have so kindly invited the delegates to visit their plants. This will be a particularly valuable feature of the International Technical Meeting.

The Montreal Day, August 3

Trains and motor cars rolling into Montreal from south, west and east, will bring hundreds of technical men and their wives to the International Technical Meeting that starts with registration at the Mount Royal Hotel on Monday, August 3. While the men busy with business sessions and technical papers and the ladies are shopping or seeing some of the interesting city that is Canada's metropolis, baggage will be taken to the ship and placed in the staterooms.

Much could be written about Montreal, especially as a point of interest to visitors from the United States and the visit will furnish many subjects for discussion and description in years to come. It lacks only six years of being three centuries old and some of its buildings date back to very early times.

Once it was the home of the Astors and of many other famous old American families. The Chateau de Ramezay, opposite the City Hall, is the original building in which the British Governors took up their residence after the Conquest. Benjamin Franklin lived there when, after the War of Independence, he came here to win Canada to the side of the Revolution. Beside the chateau is the Bonsecours Market where one may watch habitants selling the produce of their fields, and there are old monasteries, magnificent churches, renowned shrines, McGill University, the Pulp and Paper Research Institute, and forts that protected the early settlers from the Indians. Canadian, British, and French goods, including highest quality furs from Canada's northland, are found in Montreal stores. From Mount Royal the visitors gets a wonderful view of the

A FINE VIEW OF MONTREAL FROM MOUNT ROYAL LOOKOUT, WITH THE MAJESTIC ST. LAWRENCE FLOWING BY. IN THE FAR BACKGROUND ARE THE ADIRONDACK MOUNTAINS.

panorama of a city that is unique for the green of trees lining streets and parks and the majestic St. Lawrence River by, with the Adirondacks and Green Mountains in the background. There are also pleasant drives around the island on which Montreal is built. At Ste. Anne de Bellevue is an old Hudson's Bay Trading post and the house where Tom Moore wrote his famous "Canadian Boat Song."

As the afternoon wanes we all make our way to the docks of the second largest ocean port on the continent and board the magnificent steamer of Canada Steamship Lines that is to be our hotel for the next four days. The sights along the waterfront and the different views of the terraced city as the steamer slips out of the harbor will make us a bit late for dinner, but appetites will be all the better. Then a quiet evening on deck, renewing old friendships and making new acquaintances or joining the dance in the Salon. And so to bed, in a comfortable outside cabin, cooled by the breeze of the ship's almost unnoticeable motion, steaming steadily down the mighty St. Lawrence to Quebec, which will be described in Part 2 of this series.

Committee on Arrangements—Joint International Technical Meeting

GENERAL CHAIRMAN

W. S. Kidd—The E. B. Eddy Company Limited, Hull, Que.

GENERAL SECRETARY

A. E. Cadman—Secretary, C. P. & P. A., 3420 University street, Montreal, Que.

CHAIRMAN OF TAPPI Committee

C. C. Heritage—Oxford Paper Company, Rumford, Maine.

GENERAL COMMITTEE

G. N. Collins—Stevens & Thompson Paper Company, 205 East 42nd street, New York City.

R. G. Macdonald—Secretary, TAPPI, 122 East 42nd street, New York City.

W. R. Maull—Dill & Collins, Inc., Richmond and Tioga streets, Philadelphia, Pa.

H. J. Rowley—Anglo-Canadian Pulp and Paper Mills, Quebec, Que.

J. N. Stephenson—Editor Pulp and Paper Magazine of Canada.

Chas. Sankey—Ontario Paper Company Ltd., Thorold, Ont. Canada, Gardenvale, Que.

A. A. McDiarmid—Price Bros. & Co., Quebec, Que.

Reservations should be made promptly as the capacity of the ship is limited. Applications, with deposit of twenty-five dollars, may be sent to Economical Tours, Ltd., 1409 Pell street, Montreal Que.

Mead Corp. Makes Good Report

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, April 20, 1936—Daytonians and many others were interested the past week in examining the annual report of the Mead Corporation, which conducts paper mills at Chillicothe, and which until recently had its main offices in Dayton. The office personnel has been transferred to the mill offices in Chillicothe. George H. Mead, head of the corporation, and who is widely known throughout the paper trade, still has his office in Dayton, his home city, where various other Mead enterprises also have their principal headquarters—in the Callahan Bank building.

Stockholders were keenly interested in the figures contained in the report which showed a profit of $501,607 in 1935, an increase of $470,000 over 1934; the net working capital is improved, and outstanding bonds have been reduced $459,000.

This is a succinct report but a splendid one. The increase in profits during the past year in comparison with the previous twelve months reads like a fairy tale, but it's the gospel truth.

The Mead Mills in Chillicothe right now are stepping along at a new high peak of employment and full-time operation, thus continuing and increasing the improvement shown last year.

C. R. Vandecarr, Jr., vice-president, commenting on the annual report, said that profits were made in 1935 largely in the brown paper division, and that better business conditions throughout the country have created a greater demand for magazine and book paper. This general improvement in the state of trade is being reflected, he asserted, in the business now being experienced in the white paper division.

Bennett Inc. To Open New Size Plant May 1

Bennett Incorporated, have just completed building a new size plant at Lawrence, Mass., to supply an increased demand for Bennett Rosin-Wax Sizes, Wax Sizes, and other special emulsions used in the paper industry.

Originally, plans had been made to start operations on April 1, but due to recent flood conditions, which were particularly severe at Lawrence, it was necessary to postpone opening the new plant for a month.

The company's head office and research laboratories which are located at present in Cambridge, Mass., will be maintained at that address, but the size-making operations which were previously carried on at Cambridge will be transferred to the Lawrence plant. The new plant will have a capacity several times that of the former plant at Cambridge.

This is the fifth plant for the manufacture of prepared rosin-wax sizes, and wax sizes, which has been established since the company started in business ten years ago. Other Bennett Size-Making plants are located in Cincinnati, Ohio; Chambly, Quebec, Canada; and Hyde, Cheshire, England. In addition, paper mills located in the United States, Canada, and England operate under patent license agreements for the manufacture of Bennett Size at their own plants.

Ralph Fralick Goes with Taggart Bros.

CARTHAGE, N. Y., April 20, 1936—Ralph Fralick, of this place, left this week for Oswego, where he has secured the position as superintendent of the mechanical maintenance department at the mill of the Taggart Brothers Corporation. He was transferred to the Oswego plant from the Taggart branch at Herrings, where he worked for several years in a similar capacity. Previous to that time he was employed in the Carthage plant of the Champion Paper Company where he became an expert machinist. He plans to move his family to Oswego in the near future.

J. D. Nevelle Leaves Central Fibre Products

QUINCY, Ill., April 20, 1936—J. E. Nevelle has just resigned his position as general superintendent of the Central Fibre Products Company here. Mr. Nevelle has held this position for the past two years. His future plans have not been mentioned. Mr. Nevelle's home address is 1838 Jersey street, Quincy, Ill.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING APRIL 18, 1936

CIGARETTE PAPER

R. J. Reynolds Tobacco Co., *Pr. Roosevelt,* Havre, 12 cs.

WALL PAPER

———, *Manhattan,* Hamburg, 16 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., *American Trader,* London, 6 bls., 2 cs.

NEWSPRINT

Jay Madden Corp., *Pr. Roosevelt,* Hamburg, 227 rolls; Jay Madden Corp., *Manhattan,* Hamburg, 97 rolls; Jay Madden Corp., *Deutschland,* Bremen, 133 rolls; Perkins Goodwin & Co., *Deutschland,* Hamburg, 63 rolls.

PRINTING PAPER

R. Wilson Paper Corp., *Caledonia,* Glasgow, 60 cs.; The Morilla Co., *Ilsenstein,* Antwerp, 7 cs.; Burroughs Wellcome & Co., *American Trader,* London, 10 cs.; Ozalid Corp., *Deutschland,* Bremen, 1 cs.

WRAPPING PAPER

———, *Pr. Roosevelt,* Hamburg, 897 rolls; ———, *Exeter,* Genoa, 19 bls.; Keller Dorian Paper Co., *Exeter,* Marseilles, 5 cs.; Jay Madden Corp., *Manhattan,* Hamburg, 175 rolls, 8 bls.; Steiner Paper Corp., *Deutschland,* Hamburg, 32 cs.; ———, *Deutschland,* Bremen, 5 cs.

FILTER COMPOUND

A. W. Fenton Co., *Deutschland,* Hamburg, 75 bls.

FILTER PAPER

H. Reeve Angel & Co., Inc., *Aquitania,* Southampton, 5 cs.; H. Reeve Angel & Co., Inc., *American Trader,* London, 14 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., *American Trader,* London, 3 cs.

TRACING CLOTH

C. Bruning & Co., *Deutschland,* Bremen, 26 cs.

SURFACE COATED PAPER

Metropolitan Importing and Manufacturing Co., *Pr. Roosevelt,* Hamburg, 18 cs.; Gevaert Co. of America, *Black Tern,* Antwerp, 58 cs.; Gevaert Co. of America, *Westernland,* Antwerp, 64 cs.; C. Happel, *Deutschland,* Hamburg, 3 cs.

METAL PAPER

K. Pauli Co., *Deutschland,* Hamburg, 4 cs.

PHOTO PAPER

J. J. Gavin, *Aquitania,* Southampton, 2 cs.; Medo Photo-Supply Co., *Aquitania,* Southampton, 2 cs.

BASIC PAPER

Dingelstedt & Co., *Westernland,* Antwerp, 8 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., *Samaria,* Liverpool, 8 cs. (duplex).

DECALCOMANIAS

Sellers Transportation Co., *Deutschland,* Hamburg, 15 cs.

COVER PAPER

———, *Deutschland,* Bremen, 16 cs.

TISSUE PAPER

W. J. Byrnes, *Pr. Roosevelt,* Southampton, 2 cs.; Irving Trust Co., *Hokkai Maru,* Kobe, 32 cs.; B. F. Drakenfeld & Co., *Samaria,* Liverpool, 6 cs.; Van Oppen & Co., *Exeter,* Genoa, 31 cs.

WAX PAPER

———, *Pr. Roosevelt,* Hamburg, 6 cs.

CARD BOARD

Massce & Co., *Manhattan,* Havre, 9 cs.

PASTE BOARD

———, *Manhattan,* Havre, 106 cs.

STRAW BOARDS

———, *Leerdam,* Rotterdam, 67 rolls.

PAPER TUBES

———, *Deutschland,* Hamburg, 17 pkgs.

MISCELLANEOUS PAPER

Corn Exchange Bank Trust Co., *Hokkai Maru,* Kobe, 9 cs.; Moller Products Corp., *Katsuragi Maru,* Yokohama, 10 cs.; U. S. Envelope Co., *Katsuragi Maru,* Yokohama, 11 cs.; Keuffel & Esser Co., *Manhattan,* Hamburg, 60 cs.; Jay Madden Corp., *Deutschland,* Bremen, 9 bls.

RAGS, BAGGINGS, ETC.

J. Cohen Son Co., Inc., *Caledonia,* Glasgow, 10 bls. paper stock; ———, *Caledonia,* Glasgow, 140 bls. bagging; Boger Cotton Products Co., *Eidsvold,* Shanghai, 125 bls. cotton waste; O'Brien Padawer Co., *Eidsvold,* Shanghai, 80 bls. cotton waste; Royal Manfg. Co., *Eidsvold,* Shanghai, 100 bls. cotton waste; O. Smith & Sons, *Eidsvold,* Shanghai, 100 bls. cotton waste; Castle & Overton, Inc., *Schodack,* Havre, 163 bls. bagging; R. Blank, *Schodack,* Havre, 182 bls. bagging; Irving Trust Co., *Schodack,* Havre, 57 bls. bagging; J. T. Flannery, *Schodack,* Havre, 87 bls. rags; Darmstadt Scott & Courtney, *Schodack,* Dunkirk, 381 bls. rags; Philadelphia National Bank, *Augvald* Barcelona, 270 bls. rags; Bank of N. Y. Trust Co., *Augvald,* Barcelona, 71 bls. rags; Bank of N. Y. Trust Co., *Augvald,* Barcelona, 158 bls. bagging; E. J. Keller Co., Inc., *Augvald,* ———, 58 bls. bagging; E. J. Keller Co., Inc., *Augvald,* ———, 48 bls. paper stock; Bank of N. Y. Trust Co., *Augvald,* Valencia, 162 bls. bagging; Bank of N. Y. Trust Co., *Augvald,* Valencia, 505 bls. rags.; Bank of N. Y. Trust Co., *Augvald,* Valencia, 471 bls. paper stock; Chase National Bank, *Augvald,* Valencia, 54 bls. old garments; S. Shapiro & Sons, *Augvald,* Alicante, 102 bls. rags; ———, *Augvald,* Alicante, 312 bls. rags; E. J. Keller Co., Inc., *Ilsenstein,* ———, 214 bls. bagging; Banco Coml. Italiane Trust Co., *Ilsenstein,* Antwerp, 371 bls. jute waste; Royal Manfg. Co., *Ilsenstein,*

Antwerp, 168 bls cotton waste; ———, *Hokkai Maru,* Shanghai, 125 bls. cotton waste; Continental Bank Trust Co., *Hokkai Maru,* Osaka, 48 bls. paper stock; Manufacturers Trust Co., *Black Tern,* Antwerp, 185 bls. bagging; Darmstadt Scott & Courtney, *Black Tern,* Antwerp, 221 bls. rags; R. Blank, *Black Tern,* Antwerp, 277 bls. rags; Continental Bank Trust Co., *Black Tern,* Antwerp, 105 bls. bagging; Whaling Waste Products Co., *Black Tern,* Antwerp, 78 bls. jute waste; ———, *Black Tern,* Antwerp, 128 bls. rags; Irving Trust Co., *Black Tern,* Antwerp, 46 bls. rags; E. J. Keller Co., Inc., *Black Tern,* ———, 139 bls. bagging; E. J. Keller Co., Inc., *Westernland,* ———, 112 bls. bagging; Chase National Bank, *Westernland,* Antwerp, 105 bls. bagging; F. Stern, *Black Condor,* Rotterdam, 349 bls. rags; Philadelphia National Bank, *Black Condor,* Rotterdam, 367 bls. rags; E. Mayer, *Black Condor,* Rotterdam, 26 bls. rags; A. H. Searle, *Black Condor,* Rotterdam, 60 bls. rags; ———, *Black Condor,* Antwerp, 421 bls. rags; ———, *American Trader,* London, 30 bls. rags; E. J. Keller Co., Inc., *Exeter,* ———, 187 bls. paper stock; E. J. Keller Co., Inc., *Exeter,* ———, 116 bls. bagging; W. Steck & Co., *Exeter,* Alexandria, 242 bls. rags; W. Steck & Co., *Exeter,* Alexandria, 79 bls. bagging; P. Berlowitz, *Exeter,* Alexandria, 90 bls. rags; ———, *Exeter,* Alexandria, 63 bls. rags; ———, *Exeter,* Alexandria, 60 bls. new cuttings; R. Blank, *Leerdam,* Rotterdam, 37 bls. old carpets; ———, *Bristol City,* Bristol, 498 bls. rags; ———, *Bristol City,* Bristol, 61 bls. bagging; Whaling Waste Products Co., *City of Flint,* Dundee, 148 bls. paper stock; E. J. Keller Co., Inc., *City of Flint,* Dundee, 96 bls. bagging; ———, *Manhattan,* Hamburg, 195 bls. bagging; Chase National Bank, *Deutschland,* Hamburg, 53 bls. bagging; Chase National Bank, *Deutschland,* Hamburg, 81 bls. rags; Guaranty Trust Co., *Deutschland,* Hamburg, 250 bls. rags.

HIDE FLESHINGS

———, *City of Pittsburgh,* Madras, 175 bls.

BAGASSE PAPER STOCK

W. R. Grace & Co., *Cacique,* Salaverry, 698 bls.

OLD ROPE

———, *Caledonia,* Glasgow, 219 coils; W. Steck & Co., *Schodack,* Dunkirk, 206 coils; Irving Trust Co., *Black Tern,* Antwerp, 73 coils; Chase National Bank, *American Trader,* London, 44 coils; W. Steck & Co., *Leerdam,* Rotterdam, 43 coils; Chase National Bank, *Bristol City,* Bristol, 64 coils; G. W. Millar & Co., Inc., *Bristol City,* Bristol, 44 coils.

CHINA CLAY

———, *Samaria,* Liverpool, 25 cs.

BONE GLUE

———, *Deutschland,* Hamburg, 300 bags.

CASEIN

———, *Pr. Roosevelt,* Havre, 716 bags; ———, *Black Tern,* Antwerp, 710 bags; ———, *H. Jaspar,* Antwerp, 334 bags.

WOOD PULP

———, *Pr. Roosevelt,* Hamburg, 815 bls. wood pulp, 129 tons; ———, *Manhattan,* Hamburg, 160 bls. wood pulp, 17 tons; M. Sone, *Manhattan,* Hamburg, 1,828 bls. wood pulp, 279 tons; Castle & Overton, Inc., *Deutschland,* Hamburg, 525 bls. wood pulp, 105 tons; G. H. McFadden & Bro., *Deutschland,* Hamburg, 280 bls. wood pulp, 56 tons; Bulkley Dunton & Co., *Beemsterdyk,* ———, 231 bls. wood pulp; Bulkley Dunton & Co., *Hansa,* ———, 318 bls. wood pulp; Gottesman & Co., Inc., *Cliffwood,* Czecho-Slovakia, 1,389 bls. wood pulp.

WOOD PULP BOARDS

———, *Leerdam,* Rotterdam, 111 bdls.

WOOD PULP SHEETS

———, *Deutschland,* Bremen, 55 bls.

PORTLAND IMPORTS

WEEK ENDING APRIL 18, 1936

Bulkley Dunton & Co., *Kolsnaren,* ———, 5,800 bls. wood pulp; Gottesman & Co., Inc., *Tennessee,* Norway, 1,500 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING APRIL 18, 1936

Elliott Addressing Machine Co., *Eidsvold,* Yokohama, 4 cs. paper; G. F. Malcolm, Inc., *Samaria,* Liverpool, 31 cs. tissue paper; E. J. Keller Co., Inc., *Exeter,* ———, 80 bls. paper stock.

PHILADELPHIA IMPORTS

WEEK ENDING APRIL 18, 1936

National Waste Co., *Eidsvold,* Kobe, 100 bls. cotton waste; National Wiping Rag Co., *Eidsvold,* Kobe, 50 bls. rags; Castle & Overton, Inc., *Schodack,* Havre, 1,391 bls. rags; National Vulcanized Fibre Co., *Schodack,* Havre, 39 bls. rags; Certainteed Products Corp., *Schodack,* Havre, 82 bls. rags; W. F. Sherwood & Sons, *Schodack,* Havre, 90 bls. rags; J. M. Mures & Co., *Schodack,* Havre, 8 cs. filter paper; E. J. Keller Co., Inc., *Schodack,* ———, 592 bls. rags; ———, *Augvald,* Barcelona, 40 bls. filter paper; E. J. Keller Co., Inc., *Augvald,* ———, 229 bls. rags; Bank of N. Y. Trust Co., *Augvald,* Valencia, 81 bls. rags; Castle & Overton, Inc., *Leerdam,* Rotterdam, 1,198 bls. wood pulp; G. W. Millar & Co., Inc., *Leerdam,* Rotterdam, 99 bls. rags; ———, *Leerdam,* Rotterdam, 122 bls. rags; J. A. Steer & Co., *Bristol City,* Bristol, 161 coils old rope; ———, *City of Flint,* Leith, 198 bls. bagging; ———, *City of Flint,* Leith, 41 coils old rope; ———, *City of Flint,* Dundee, 14 bls. paper stock.

BALTIMORE IMPORTS

WEEK ENDING APRIL 18, 1936

Congoleum Nairn Co., *Augvald,* Valencia, 492 bls. rags; Castle & Overton, Inc., *Black Condor,* Rotterdam, 265 bls. wood pulp, 53 tons; ———, *Black Condor,* Rotterdam, 960 bls. wood pulp, 201 tons; Congoleum Nairn Co., *Black Condor,* Rotterdam, 166 bls. rags; Congoleum Nairn Co., *Black Condor,* Antwerp, 840 bls. rags; Castle & Overton, Inc., *Leerdam,* Rotterdam. 334 bls. wood pulp; National City Bank, *Leerdam,* Rotterdam, 300 bls. rags; ———, *City of Flint,* Leith, 76 coils old rope; Bulkley Dunton & Co., *Soloy,* ———, 750 bls. wood pulp; Gottesman & Co., Inc., *Rydboholm,* Sweden, 640 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING APRIL 18, 1936

E. J. Keller Co., Inc., *Black Condor,* ———, 133 bls. bagging; N. Y. Trust Co., *Black Condor,* Antwerp, 116 bls. bagging; Gottesman & Co., Inc., *Rydboholm,* Sweden, 150 bls. wood pulp; Gottesman & Co., Inc., *City of Havre,* Czecho-Slovakia, 672 bls. wood pulp.

HOUSTON IMPORTS

WEEK ENDING APRIL 18, 1936

Darmstadt Scott & Courtney, *Katsuragi Maru,* Kobe, 400 bls. bagging.

GALVESTON IMPORTS

WEEK ENDING APRIL 18, 1936

Gottesman & Co., Inc., *Trolleholm,* Sweden, 1,200 bls. wood pulp.

NEW ORLEANS IMPORTS

WEEK ENDING APRIL 18, 1936

E. J. Keller Co., Inc., *Jomar,* ———, 167 bls. paper stock.

Sulphur

A FIRST REQUISITE

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Paper Making

Large Production
Ample Reserves
Prompt Deliveries
Purity 99½%

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Mines: Gulf, Newgulf and Long Point, Texas

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THE DRAPER FELTS

All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

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A Division of American Cyanamid Company

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, April 22, 1936.

Conditions in the local paper market are practically unchanged. Demand for the various standard grades of paper is moderately active. Shipments are moving more freely than of late. Sales forces of the leading paper organizations are conducting a strenuous sales campaign.

The newsprint paper market is exhibiting a stronger undertone. Advertising linage and circulation of the leading newspapers are running ahead of last year. Manufacturing operations are being maintained in increased volume to take care of increased requirements.

Demand for the various grades of fine paper is fairly persistent. Book and writing papers are moving in better volume than at any time since the floods. Cover papers are in seasonal request. The tissue market is somewhat irregular, with prices spotty. Some improvement transpired in the coarse paper market. Prices are firm.

Mechanical Pulp

The ground wood pulp market is displaying strength. Production in the United States, Canada and abroad is proceeding in sufficient volume to take care of the current consumption. There are no undue accumulations at the mills. Prices are generally holding to previously quoted levels, without difficulty.

Chemical Pulp

Business in the chemical pulp market is fairly brisk. Bleached sulphite and kraft pulps continue very firm. Imported No. 1 kraft pulp is now quoted at $1.85 to $2.00, on dock, Atlantic ports. More interest is being shown by the paper mills in bleachable grades of unbleached sulphite. Soda pulp is steady.

Old Rope and Bagging

The old rope market is rather quiet at present. Paper mill demand for domestic and foreign old manila rope is restricted. Mixed strings are fairly active. The bagging market is listless. Scrap and gunny bagging are in light request. Roofing bagging is moving into consumption in fairly good volume for the season.

Rags

Some improvement transpired in the domestic rag market. More interest was displayed by the paper mills in new cotton rags, especially No. 1 white shirt cuttings. Roofing grades are fairly steady. The position of the old rag market is practically unchanged, while no radical revisions took place in the imported rag market.

Waste Paper

Board mill demand for the lower grades of paper stock is light at present. Although prices have a tendency to weaken, however, most dealers are maintaining their quotations at formerly recorded levels. The higher grades of waste paper continue steady, more especially white envelope cuttings and hard and soft white shavings.

Twine

Steadiness prevails in the local twine market. Demand for the various varieties is fairly insistent, considering the busy Easter period has passed. The outlook for the future is considered fairly promising, in most quarters. Prices are steady, despite the usual keen competition for orders.

An Explanation

E. Newell, president of Dominion Envelope and Cartons, Ltd., of Toronto, writes: "The item printed on page 17, in your issue of April 2, is open to misconception. The Dominion Envelope and Cartons, Limited, owned the Dominion Boxboards, Limited, Fibre Boxes, Limited, York Paper Mills and the controlling interest in the Dominion Envelope and Cartons (Western) Limited, with plants in Winnipeg and Edmonton. The Dominion Envelope & Cartons, Limited, sold to the Gair Company of Canada the above three companies and the controlling interest in the Dominion Envelope and Cartons (Western) Limited, Winnipeg and Edmonton. The Dominion Envelope and Cartons, Limited, Toronto, are owned and operated as heretofore and are only operating one other company, which they wholly own, namely the Canadian Wrappers, Limited."

Decision on Newsprint Rates

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 22, 1936—The Interstate Commerce Commission has handed down its decision in connection with newsprint paper rates to central and trunk line territories.

In the decision the commission granted authority, on conditions, to establish and maintain rates on newsprint paper, in carloads from points in eastern Canada, and New England, and eastern trunk line territories, to destinations in central and trunk line territories, "without observing the long and short haul provision of section 4 of the Interstate Commerce Act."

Dietz Machine Works Installations

Some new installations made by the Dietz Machine Works of toilet and converting machinery are the Rockland Paper Company, Rockland, Del.; Eastern Tissue Corporation, Brooklyn, N. Y. and the North American Pulp and Paper Corporation, Cheboygan, Mich.

One of the newer and very convenient developments of this company is a machine arranged for combination of two of the most popular toilet sheet lengths, viz. 4½ inches and five inches. Both of these lengths, also a 7½-inch long towel sheet can be made on the same machine without changing cylinders.

FARREL CALIPERS

Indispensable for obtaining accurate knowledge of roll condition. Show slightest variation in diameter and measure exact amount of crown. Simple light weight, easy to handle, move freely on rollers. Five sizes to measure rolls from 4" to 50" diameter.

Send for free Bulletin No. 106

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ENGLISH FINISH SUPERCALENDERED MACHINE FINISHED BOOK and LITHOGRAPHIC PAPERS

Offset, Envelope, Bond, Writing, Mimeograph, Ledger, Cover and Music Papers, Index Bristol, Post Card and Label Papers

High Grade Coated Book

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KRAFT WRAPPING AND KRAFT ENVELOPE

Bleached Spruce Sulphite Pulp, Soda and Kraft Pulp

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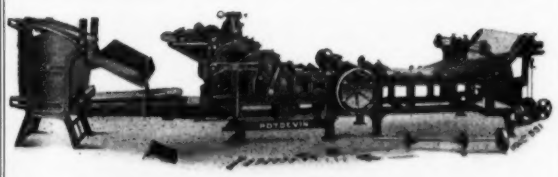

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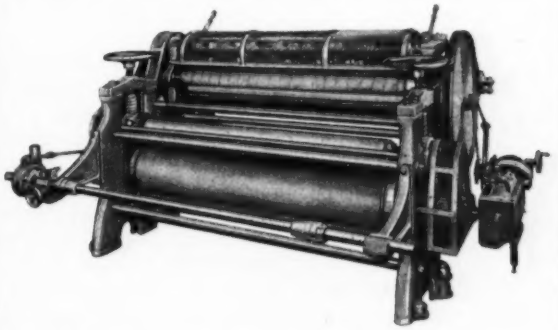

Toilet Paper Embosser

The machine illustrated is our standard triple shaft toilet winder with embossing unit attached.

Winder may be operated with embosser disconnected if desired.

We also manufacture independent embossing units to be attached to your present winder units.

Hudson Sharp Machine Company
Green Bay, Wisconsin

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, April 22, 1936.

BLANC FIXE.—Demand for blanc fixe is moderately active. Prices are holding to formerly quoted levels, without difficulty. The pulp is selling at $42.50 to $45 per ton, in bulk; while the powder is offered at 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market is moderately active. Shipments against contract are moving in fairly good volume for the season. Prices remain unchanged. Bleaching powder is quoted at $2 to $2.25 per 100 pounds, in drums, at works.

CASEIN.—The casein market is firm. Domestic standard ground is quoted at 15 and finely ground at 15½; Argentine standard ground at 14¼ and finely ground at 14½; French standard ground at 14 and finely ground at 14¼ cents per pound, in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. Prices are generally holding to schedule. Solid caustic soda is quoted at $2.55 to $2.60; while the flake and ground are selling at $2.95 to $3 per 100 pounds, in drums, at works.

CHINA CLAY.—The china clay market is displaying strength. Contract shipments are moving regularly. Prices are steady. Imported china clay is quoted at $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at $6.50 to $12 per ton.

CHLORINE.—Paper mill demand for chlorine is well sustained. The contract movement is normal. Prices are being maintained at formerly quoted levels, without difficulty. Chlorine is selling at $2.15 to $2.25 per 100 pounds, in tank cars, at works.

ROSIN.—The rosin market is fairly steady. Paper making gum rosin is quoted at $4.45 and wood rosin at $4.25 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size is selling at $2.58½ per 100 pounds, in tank cars, at works.

SALT CAKE.—Supplies of salt cake are moving into consumption in good volume. Prices remain unchanged. Salt cake is quoted at $12 to $13; chrome salt cake at $11 to $12 per ton, at works. Imported salt cake is selling at $12 to $13 per ton, ship side.

SODA ASH.—The position of the soda ash market is practically unchanged. Contract shipments are normal. Prices are steady. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.20; and in barrels, $1.50.

STARCH.—Paper mill demand for starch is moderately active. The contract movement is seasonal. Prices are holding to schedule. Special paper making starch is quoted at $3.10 per 100 pounds, in bags; and at $3.37 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—No radical changes transpired in the sulphate of alumina market. Demand from the paper mills is mainly routine. Commercial grades are quoted at $1.35 to $1.60; and iron free at $2 to $2.25 per 100 pounds, in bags, at works.

SULPHUR.—The sulphur market is steady. Yearly contracts are quoted at $18 per ton, in bulk, on orders of 1,000 tons, or over, and $20 on smaller quantities. On spot and nearby carloads the quotation is $21 per ton. All quotations are in car lots, at works.

TALC.—Trading in the talc market is rather light at present. The contract movement is fairly active. Prices remain unchanged. Domestic talc is quoted at $16 to $18 per ton, at eastern mines; while imported talc is selling at $23 to $30 per ton, on dock.

Market Quotations

Paper

Rag Content Bond & Ledgers— Delivered Zone 1	Bonds	Ledgers
100% Rag Ext. No. 1	.36	.37
100% Rag	.28	.29
75% Rag	.21	.22
65% Rag	.18	.19
50% Rag	.15	.16
25% Rag	.12½	.13½

Sulphite Bond & Ledgers— Delivered Zone 1	Bonds	Ledgers
No. 1 Sulphite	7.75	8.75
No. 2 Sulphite	6.75	7.75
No. 3 Sulphite	6.00	7.00
No. 4 Sulphite	5.50	6.50

Book, Cased—		
S. & S. C.	5.35 @	5.75
S. & S. C. Litho	5.60 @	6.00
M. F.	5.10 @	5.50
Coated and Enamel	5.90 @	6.55
Coated Litho	5.90 @	6.55

Tissues—Per Ream—		
White No. 1	.82½ @	—
White No. 1 M. G.	.77½ @	—
White No. 1½	.62½ @	—
White No. 2	.60 @	—
Anti-Tarnish M. G.	.67½ @	—
Colored	.80 @	—
Kraft	.67½ @	—
Manila	.60 @	—
Unbleached Toilet	2.60 @	3.30
Bleached Toilet	3.94 @	5.26

Paper Towels—		
Unbleached	2.10 @	3.35
Bleached	3.30 @	3.70

Manila—		
No. 1 Jute	9.00 @	9.25
No. 2 Jute	7.75 @	8.50
No. 1 Wood	4.00 @	5.25
No. 2 Wood	3.50 @	4.00

Fibre Papers—		
No. 1 Fibre	4.25 @	5.50
No. 2 Fibre	4.00 @	4.75

(Delivered New York)

News, per ton—		
Roll, contract	41.00 @	—
Sheets	46.00 @	—

Kraft—		
No. 1 Northern	4.12½ @	4.75
Standard	4.00 @	—
Southern	3.87½ @	—

Boards—per ton—	
News	32.50 @35.00
Chip	32.50 @35.00
Sgl. Mla. Ll. Chip	45.00 @47.50
Jute Lined Chip	42.50 @45.00
Kraft Liners	60.00 @62.50
White Pat. Coated	55.00 @57.50
Binders Boards	67.00 @75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—	
Moist	23.00 @24.00
Dry	23.00 @24.00
(Delivered)	
No. 1 Domestic and Canadian	27.00 @28.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—		
Division 1	2.60 @	2.90
Division 2	2.55 @	—*
Division 3	2.50 @	—*

Prime Qualities—		
Class 1. All Prime Easy Bleaching	2.05 @	—*

Other Than Easy Bleaching—		
Class 2. Higher than Standard	2.00 @	—*
Class 3. Standard	1.95 @	—*
Class 4, Lower than Standard	1.90 @	—*

(On Dock, Atlantic Ports)

Kraft No. 1	1.85 @	2.00
Kraft No. 2	1.70 @	1.80

(F. o. b. Pulp Mill)

Kraft Domestic	1.80 @	1.90

(Delivered)

Soda Bleached	2.60 @	—

* Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	8.00 @	8.15
Silesias No. 1	5.50 @	5.75
New Unbleached	8.25 @	8.50
New Soft Blacks	3.75 @	4.00
Blue Overall	5.75 @	6.00
Fancy	3.25 @	3.50
Washables	2.25 @	2.50
Mixed Khaki Cuttings	3.50 @	3.75
O. D. Khaki Cuttings	4.25 @	4.50
Men's Corduroy	2.00 @	2.25
New Mixed Blacks	2.75 @	3.00

Old Rags

White, No. 1—		
Repacked	3.00 @	3.50
Miscellaneous	2.75 @	3.25
White, No. 2—		
Repacked	1.75 @	2.25
Miscellaneous	1.50 @	1.75
Thirds and Blues—		
Repacked	2.25 @	2.50
Miscellaneous	2.10 @	2.20
Roofing Rags—		
No. 1	2.00 @	2.10
No. 2	1.70 @	1.80
No. 3 (bagging)	1.60 @	1.70
No. 4	1.60 @	1.70
No. 5A	1.00 @	1.10

Foreign Rags

New Rags

New Dark Cuttings	2.00 @	2.25
New Mixed Cuttings	1.80 @	1.90
New Light Silesias	3.75 @	4.00
Light Flannelettes	4.25 @	4.50
New White Cuttings	6.50 @	7.00
New Light Oxfords	3.25 @	3.50
New Light Prints	2.75 @	3.00

Old Rags

No. 1 White Linens	7.50 @	8.00
No. 2 White Linens	6.50 @	7.00
No. 3 White Linens	4.50 @	5.00
No. 4 White Linens	2.25 @	2.50
No. 1 White Cotton	4.25 @	4.75
No. 2 White Cotton	3.25 @	3.75
No. 3 White Cotton	2.50 @	2.75
No. 4 White Cotton	1.90 @	2.15
Extra Light Prints	2.00 @	2.25
Ord. Light Prints	1.75 @	1.85
Med. Light Prints	1.55 @	1.65
Dutch Blue Cottons	2.00 @	2.25
French Blue Linens	2.30 @	2.40
German Blue Linens	2.15 @	2.25
German Blue Cottons	1.70 @	1.80
Checks and Blues	1.70 @	1.80
Linsey Garments	2.50 @	2.60
Dark Cottons	2.00 @	2.35
Old Shopperies	1.00 @	1.05
New Shopperies	1.25 @	1.35
French Blues	2.00 @	2.25

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	2.20 @	2.25
Domestic	2.25 @	2.35
Wool Tares, light	1.75 @	2.00
Wool Tares, heavy	2.25 @	2.35
Bright Bagging	1.75 @	1.80
Manila Rope—		
Foreign	2.40 @	2.50
Domestic	2.25 @	2.35
Mixed Strings	1.00 @	1.05
New Burlap Cut	2.00 @	2.25
Hessian Jute Threads—		
Foreign	2.60 @	2.75
Domestic	2.80 @	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—		
White Envelope Cuttings	2.65 @	2.75
Ordinary Hard White No. 1	2.25 @	2.35
Hard White No. 2	2.10 @	2.20
Soft White No. 1	2.05 @	2.15
Flat Stock—		
Stitchless	.65 @	.75
Over issue Mag	.65 @	.75
Solid Flat Book	.55 @	.60
Crumpled No. 1	.35 @	.40
Solid Book Ledger	1.50 @	1.65
Ledger Stock	.85 @	.90
New B. B. Chips	.30 @	.35
Manilas—		
New Env. Cut	1.75 @	1.85
New Cuttings	1.35 @	1.45
Bogus Wrapper	.40 @	.50
Old Kraft Machine—		
Compressed bales	1.25 @	1.35
News—		
No. 1 White News	1.35 @	1.45
Strictly Overissue	.50 @	.55
Strictly Folded	.35 @	.40
No. 1 Mixed Paper	.27½ @	.32½

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Longerimp, Spiral Weave
Modified Longerimp
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They are all "Live Wires"

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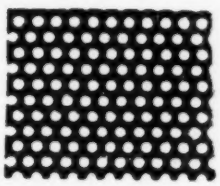
Perforated Metal Screens

For Pulp and Paper Mills

STEEL, COPPER, BRASS, BRONZE, MONEL METAL and other Alloys punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.



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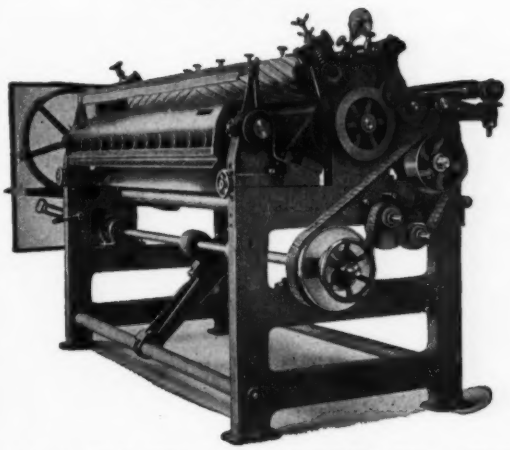
ROLLER BEARING CUTTER



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Twines

(F. o. b. Mill)

(Soft Fibre)

Coarse Polished—			
India	.13¼	@	.15¼
Beig. White Hemp	.14¼	@	.17¾
India Compress	.13¾	@	.14¼
Fine Polished—			
Fine India	.21½	@	.23½
Special	.19½	@	.21½
Unpolished—			
Box	.12	@	.12½
Paper Makers	.09	@	.13½
Tube Rope	.10	@	.15½
Wall Paper	.11	@	.14½
Wrapping	.15½	@	.21
Special	.15	@	.15½
Soft Fiber Rope	.12½	@	.12¾

(Hard Fibre)

Bond	.12	@	.20½
Anchor	.11½	@	.13
Manila	.21	@	.2[illegible]

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond	.12	@	.40
Water Marked Sulphite Bond	.06¾	@	.11
Sulphite Bond	.05½	@	.07¼
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¼	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.05¾	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	42.00	@	—
Sheets, open	47.00	@	—
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent Coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.60	@	.70
Solid Books	.50	@	.60
Blanks	1.00	@	1.05
Kraffts	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.40	@	.50
Overissue News	.40	@	.45
Old Newspapers—			
No. 1	.30	@	.35
No. 1 Mixed Paper	.25	@	.30
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

Rag Content Bond & Ledgers—Delivered Zone 1

	Bonds	Ledgers
100% Rag Ext. No. 1	.36	.37
100% Rag	.28	.29
75% Rag	.21	.22
65% Rag	.18	.19
50% Rag	.15	.16
25% Rag	.12½	.13½

Sulphite Bond & Ledgers—Delivered Zone 1

	Bonds	Ledgers
No. 1 Sulphite	7.75	8.75
No. 2 Sulphite	6.75	7.75
No. 3 Sulphite	6.00	7.00
No. 4 Sulphite	5.50	6.50

F.o.b. Mill

Book, M. F.	5.00	@	—
Book, S. S. & C.	5.25	@	—
Book, Coated	6.15	@	—
Coated Lithograph	6.15	@	—
No. 1 Jute Manila	10.50	@	—
Manila Sul., No. 1	6.75	@	—
Manila No. 2	4.25	@	—
No. 1 Kraft	6.00	@	—
Southern Kraft	5.00	@	—
News Print Rolls	40.00	@	—
Straw Board	40.00	@	45.00
News Board	40.00	@	—
Chip Board	37.50	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.09	@	.09¼
New White, No. 2	.05½	@	.06
Light Silesias	.05½	@	.06½
Silesias, No. 1	.04½	@	.05
Black Silesias, soft	.03½	@	.04
New Unbleached	.06½	@	—
Washable, No. 1	.02	@	.02½
Blue Overall	.06	@	.06½
Cottons—According to grades—			
Washable, No. 2	.02½	@	.04½
New Blue	.02	@	.02½
Fancy	.03	@	—
New Black Soft	.04¼	@	.04¾
New Light Seconds	.04	@	.04¼
New Dark Seconds	2.00	@	—
Khaki Cuttings—			
No. 1 O. D.	.04½	@	.05
No. 2 Mixed	.03½	@	.04½
Corduroy	.02¼	@	.02½
New Canvas	.04½	@	.05
New Black Mixed	.02¼	@	.02½

Domestic Rags (Old)

White No. 1—			
Repacked	4.00	@	4.50
Miscellaneous	3.00	@	3.50
Thirds and Blues—			
Miscellaneous	2.00	@	2.25
Repacked	2.50	@	2.75
Black Stockings (Export)	4.50	@	5.00
Roofing Stock—			
Foreign No. 1	2.20	@	2.25
Domestic No. 1	1.80	@	1.85
Domestic No. 2	1.60	@	1.65
Roofing bagging	1.45	@	—

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	2.00	@	—
Domestic	2.25	@	—
Manila Rope	2.25	@	2.50
Sisal Rope	2.00	@	2.25
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	2.00	@	2.50
No. 2	.90	@	1.00
Wool Tares, heavy	3.00	@	3.25
Mixed Strings	1.00	@	1.10
No. 1 New Light Burlap	3.00	@	3.50
New Burlap Cuttings	2.50	@	2.75

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.30	@	2.40
No. 2 Hard White	2.10	@	2.20
No. 1 Soft White	1.80	@	1.85
No. 2 Soft White	1.40	@	1.45
No. 1 Mixed	—	@	.85
Solid Ledger Stock	1.50	@	1.60
Ledger Stock, white	1.15	@	1.20
Ledger Stock, colored	.85	@	.90
No. 1 Books, heavy	.65	@	.70
Manila Cuttings	1.50	@	1.60
Print Manila	.50	@	.60
Container Manila	.50	@	.60
Kraft Paper	1.10	@	1.20
No. 1 Mixed Paper	.35	@	.40
Straw Board Chip	.40	@	—
Binders Board Chip	.40	@	—
Corrugated Board	.60	@	.65
Overissue News	.60	@	—
Old Newspapers	.40	@	—

BOSTON

Paper

Rag Content Bond & Ledgers—Delivered Zone 1

	Bonds	Ledgers
100% Rag Ext. No. 1	.36	.37
100% Rag	.28	.29
75% Rag	.21	.22
65% Rag	.18	.19
50% Rag	.15	.16
25% Rag	.12½	.13½

Sulphite Bond & Ledgers—Delivered Zone 1

	Bonds	Ledgers
No. 1 Sulphite	7.75	8.75
No. 2 Sulphite	6.75	7.75
No. 3 Sulphite	6.00	7.00
No. 4 Sulphite	5.50	6.50

F.o.b. Mill

Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¼	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04½	@	.05
No. 2 Kraft	.04	@	.04¼

(Delivered New England points)

Southern Kraft	.03¾	@	—
News Print Rolls	39.50	@	—
Straw Board, rolls	.009	@	35.00
Filled News Board	40.00	@	45.00
Chip Board	37.50	@	40.00
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated News Board (Bender)	55.00	@	65.00
Wood Pulp Board	70.00	@	75.00
Binder Boards (Standard Grade)	67.00	@	75.00

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.00	@	2.20
No. 1 Soft White	1.75	@	1.90
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.50	@	1.75
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.85	@	.90
No. 1 Books, heavy	.60	@	.70
No. 1 Books, light	.50	@	.60
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.50	@	1.60
No. 1 Old Manila	.60	@	.65
White Blank News	1.20	@	1.25
No. 1 Kraft	1.15	@	1.20
Mixed Papers	.22½	@	.25
Print Manila	.47½	@	.50
Container Manilas	.27½	@	—
Old Newspapers	.27½	@	.32½
Overissue News	—	@	.40
Box Board Chips	—	@	.25
Corrugated Boxes	.40	@	.45
Kraft corrugated boxes	.95	@	1.00
Screening Wrappers	.40	@	.45

Bagging

(F. o. b. Boston)

Manila Rope—			
Foreign	2.25	@	2.35
Domestic	2.25	@	2.35
Transmission Rope	1.30	@	1.40
Jute Rope	2.00	@	2.25
Jute Carpet Threads	1.00	@	1.10
Gunny No. 1—			
Foreign	2.05	@	2.15
Domestic	1.90	@	2.00
Bleachery Burlap	4.50	@	5.00
Scrap Burlap—			
Foreign	2.10	@	2.15
Domestic	1.75	@	1.90
Scrap Sisal	2.00	@	2.25
Scrap Sisal for Shredding	2.25	@	2.50
Wool Tares, heavy	2.25	@	2.35
New Burlap Cuttings	2.25	@	2.35
Australian Wool Pouches	2.50	@	2.75
Heavy Baling Bagging	2.00	@	2.25
Paper Mill Bagging	1.75	@	2.00
Bagging No. 2	1.25	@	1.50

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.01¾	@	.02
New White No. 1	.08	@	.08¼
New White No. 2	.04	@	.04¼
Silesias No. 1	.05½	@	.06
New Black Silesias	.03½	@	.04¼
Soft Unbleached	.07¼	@	.07¾
Blue Cheviot	5.25	@	5.50
Fancy	.02½	@	.02¾
Washable	.0165	@	.0170
Cottons—According to grades—			
Blue Overalls	5.50	@	6.00
New Black, soft	.04	@	.04¾
Khaki Cuttings	.04	@	.04¾
O. D. Khaki	.03¾	@	.04¾
Corduroy	.01¾	@	.02
New Canvas	—	@	.05
B.V.D. Cuttings	—	@	.06¼

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues	1.75	@	2.25
Thirds and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62½
Black Stockings	3.90	@	4.00
Roofing Stock—			
No. 1	1.90	@	2.00
No. 2	1.60	@	1.70
No. 3	1.50	@	1.60

Foreign Rags

(F. o. b. Boston)

Dark Cottons	1.75	@	1.85
New White Shirt Cuttings	6.50	@	6.75
Dutch Blues	2.25	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.90	@	2.00
Old Linsey Garments	2.00	@	2.10
New Silesias	4.75	@	5.25

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.11	@	—
No. 2 Sulphite	.08¼	@	—
No. 1 Colored	.12	@	—
No. 2 Colored	.09	@	—
Ledgers			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09¼
Book—			
No. 1 M. F. (Carloads)	6.50	@	—
No. 2 M. F. (Carloads)	6.00	@	—
No. 3 M. F. (Carloads)	6.00	@	—
No. 1 S. C. (Carloads)	7.00	@	—
No. 2 S. C. (Carloads)	6.50	@	—
No. 3 S. C. (Carloads)	6.50	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	13.00	@	—
Wrapping—delivered—			
Rag Brown	4.75	@	—
White Wrap	3.50	@	—
"B" Manila	4.80	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft, No. 2	5.40	@	—

(F. o. b. Cars Toronto)

News, per ton—			
Rolls (contract)	40.50	@	—
Sheets	45.00	@	—

Pulp

Ground wood	27.00	@	—
Unbleached Sulphite	42.00	@	—
Book (Class 1)	58.00	@	—
Writing (Class 2)	59.00	@	—
Select (Class 3)	60.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.25
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock	.80	@	.90
Ledgers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.40
Printed Manilas	.50	@	—
Kraft	1.00	@	1.60
News and Scrap—			
Strictly Overissue	.55	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.07¼	@	.07½
Fancy Shirt Cuttings	.02¼	@	.02½